Primavera Project Planner® for the Enterprise

User's Guide

Version 2.0

Please send your comments about Primavera Enterprise to:

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Preface

In this preface:

Primavera Enterprise is comprehensive, multiproject planning and control software, built on SQL, Oracle, and InterBase server databases for enterprise-wide project management scalability. Primavera Enterprise includes Primavera Project Planner for the Enterprise (P3e), which can stand alone for project and resource management, or it can be used with companion products. Primavera Progress Reporter* enables Web-based team communication and time keeping, Primavera Portfolio Analyst provides project analysis across the enterprise, and Primavision allows users to access project management data via the Internet.

* Primavera Progress Reporter is available only for Primavera Enterprise installations that use SQL server and Oracle databases.

What's New in Primavera Enterprise?

In today's complex business environment, organizations often have multiple projects underway at the same time, sharing the same resources. To ensure that projects are completed on time and within budget, executives, project managers, and other members of the project team need to be able to see both summary and detail information about all aspects of all projects in the enterprise—both planned and in progress. This new version of Primavera Enterprise provides the enterprise structure needed to manage multiple projects—from the highest levels of the organization to the individuals that perform specific project tasks. For example,

Details about each feature in this list are included throughout this guide and the other documentation provided with P3e.

- *The enterprise project structure (EPS)* organizes and summarizes any/all projects within the enterprise hierarchically for top-down budgeting, resource and cost analysis, and global organizational breakdown structure (OBS) control of data.
- *Budget distribution enhancements* enable you to establish a dictionary containing any nonprofit, government-allocated, or other funding sources for easy assignment to budget items as you develop projects in P3e. You also have complete control over budget distribution through monthly spending plans and tallies; and budget rollups by funding source for tracking and managing funding from multiple sources.
- *Total and time-distributed summary data are calculated and persisted* at timed intervals or on demand so project participants can see the most up-to-date summary values for all projects in the enterprise.
- *Roles* can be defined with a specific proficiency level to be assigned and managed as resources; roles also allow enterprise-level resource planning based on roles and proficiency requirements.
- *Hourly scheduling* provides hourly calendars, shift support for resources (with varying limits per shift) during leveling, hourly resource use analysis on profiles and spreadsheets, and scheduling results to the hour and minute.
- *Automatic scheduling* reschedules and levels the project when predefined parameters are modified.
- *Persisted costs* calculate and save project costs based on resource unit prices for more accurate, automatic calculated project costs.
- *Global project and resource codes* help you organize data in ways that are meaningful and useful for managing your projects and resources in the EPS.

- *Weighted steps* calculate an activity's percent complete based on values assigned to the corresponding steps.
- *Spreadsheet enhancements* enable users to select a resource or role and view their assigned activities and corresponding hours in a resource spreadsheet, and to view activity use in an activity spreadsheet.
- *Global change* enables users to globally change activity data, such as durations or activity codes using Boolean logic.
- *Microsoft Project summarization* enables users to receive Microsoft Project data and view the information in P3e without having to use other applications.
- *Portfolio Analyst* has a completely new look with many new features, including the ability to dynamically level resources by dragging project bars to different timeframes on the Gantt chart.
- *Progress Reporter* for time tracking is totally Web-based for easy access by all team members across the enterprise.
- *Primavision* is a new Web-based tool that allows projects to be managed via the Internet.
- *Primavera Software Development Kit (SDK)* enables users to integrate the data in the project management database with external databases and applications.

Primavera Enterprise Documentation

The Primavera Enterprise documentation consists of printed and online manuals. You can access online documentation by inserting the Primavera Enterprise CD-ROM in your workstation's CD-ROM drive, opening the \Install\Documentation folder on the CD-ROM, then double-clicking the applicable .PDF file to view the information using Adobe Acrobat Reader, which is installed during Setup. The following table describes each manual and lists the recommended readers by role. Primavera Enterprise roles are described in the *Introducing Primavera Enterprise* chapter in Part 1 of this manual.

Title	Description
Primavera Enterprise Administrator's Guide	This guide explains how to set up the Primavera Enterprise server and database, and the Primavera Enterprise components; it also provides an overview of all the components in the Primavera Enterprise suite. The guide describes the workflow required to administer P3e, including setting up security and configuring P3e global preferences. The P3e network administrator/database administrator and project controls coordinator should read this guide.
Primavera Project Planner for the Enterprise (P3e) User's Guide	This guide explains how to plan, set up, and manage projects in an enterprise system. If you are new to P3e, start with this guide to learn how to use the software effectively to plan and manage projects. When you need more detail, refer to the P3e online Help system. The project controls coordinator, program manager, project manager, resource/cost manager, and team leader should read this guide.
Primavision Web-based Help, and *Portfolio Analyst* online Help	*Primavision* Web-based Help describes how to build new projects and analyze schedule and cost information for all projects. *Portfolio Analyst* online Help describes how to group P3e projects into portfolios for quick analysis of summary data and status. The operations executive, project controls coordinator, program manager, project manager, resource/cost manager, and team leader should read these help systems.
Primavera Progress Reporter Web-based Help	This help system describes how to use Primavera Progress Reporter to enter and update time spent on assignments. Team members should read this help.
Primavera Software Development Kit (SDK) Web-based documentation	This documentation describes how to use the SDK to connect to the project management database. The tables, fields, and stored procedures that you can access through the SDK are described. Examples are also provided to show how you can use the SDK to perform several basic tasks, such as creating a new project or assigning a resource to a project activity. The P3e network administrator/database administrator and project controls coordinator should read this documentation, which is available by inserting the Primavera Enterprise CD-ROM in your workstation's CD-ROM drive, opening the \Install\Documentation\Primavera SDK folder on the CD-ROM, then double-clicking the INDEX.HTML file to open the Table of Contents page.

Distributing Information to the Team

The online documentation can be copied to a network drive for access by project participants. Each team member can then print only those portions that specifically relate to his or her role in the enterprise.

The documentation assumes a standard setup of the product, with full access rights to all features and functions.

Using P3e Documentation and Help

This book is a step-by-step guide to planning and controlling projects using P3e. Read the first chapter to become familiar with the process of project management with P3e, then follow the steps in each successive chapter to build projects and project components, set up codes and documents, manage the resources required to complete the project plan, update projects as work gets underway, and report results throughout the project life cycle. This manual is organized as follows:

Part 1: Overview and Configuration Provides an overview of enterprise project management, simple steps for getting started quickly using P3e, and information about the standard layouts you can use to view project data in P3e. This part also provides instructions for configuring administrative (application-wide) and user workstation preferences.

Part 2: Structuring Projects Includes fundamentals about the enterprise project structure (EPS) and describes how to set up this structure, add new projects to build the hierarchy, use and navigate the EPS, open existing projects, and define project properties. In addition, Part 2 describes how to

- Use an organizational breakdown structure (OBS) in conjunction with the EPS to ensure that each project is effectively managed and that corresponding security measures are in place
- Establish the personnel and equipment required to perform the work, define unlimited hierarchical resource codes for grouping and rollups, and create a standard set of roles based on skill requirements that you can assign to resources in all projects
- Establish and use a work breakdown structure (WBS) as the basis for the budget and spending information, specifications, and milestones within the EPS
- Establish project budgets and the funding sources behind them, monthly spending plans that show how budgets are distributed throughout project life cycles, and layouts that track and analyze variance as projects progress
- Set up project codes to categorize projects for organizing, grouping, selecting, and summarizing
- Create calendars that define the available workhours in each calendar day, the shifts associated with resource personnel work schedules, national and organizational holidays, project-specific work/nonworkdays, and resource vacation days

Part 3: Implementing the Schedule Describes how to define a set of codes you can use to categorize project activities for organizing, grouping, selecting, and summarizing. Part 3 also describes how to

- Establish the activities that compose projects and apply durations, dates, resource information, activity types, activity relationships, and other activity details
- Set up the expenses, or nonresource costs, associated with a project and create global cost accounts to track activity costs and earned value according to your organization's specific cost account codes

Part 4: Updating and Managing the Schedule Describes how to establish baseline plans against which you can track project cost, schedule, and performance data. Part 4 also explains how to

- Update projects by applying actual dates directly to activities or by using timesheet data from Progress Reporter, and how to schedule and level projects
- Summarize and save project data "on-the-fly" or at a regularly scheduled interval you specify
- Establish issues, or known problems within a project plan, either manually or by defining project thresholds, which monitor project data according to measures you specify
- Calculate the effect that a project risk—a concern or uncertainty about a project or one of its components—will have on a project's schedule, costs, and durations
- Catalog and track all project-related documents and deliverables, and track the schedule by setting up additional layouts to monitor project status
- Check projects in and out of P3e to maintain the most up-to-date project data possible throughout the enterprise

Part 5: Customizing Projects Describes how to customize layouts for analysis and easier data entry, and to display specific information about projects in P3e. Part 5 also describes how to produce reports that detail or summarize project information and answer key questions that arise as the project progresses. In addition, this part discusses how to publish a project on the World Wide Web.

P3e Help system P3e provides an extensive online help system to supplement the documentation. Use P3e Help to access general information about P3e options, detailed descriptions of P3e windows and dialog boxes, and step-by-step instructions for specific P3e project tasks. P3e Help also includes Hint help for column values in various windows. Access Hint help by clicking the Display Options bar, choosing Hint Help, and then clicking a value in a column.

Where to Get Support

If you have a question about using P3e that you or your network administrator cannot resolve with information in the P3e documentation or online Help, call Primavera Customer Support at the times and locations listed below.

Please have your Primavera Enterprise product serial number ready when you call. Each call is logged to help Primavera resolve your questions quickly.

Office	Time Zone	Hours	Telephone	FAX	Internet Address*
Bala Cynwyd, Pennsylvania, USA	ET	8:00–8:00 (Mon–Fri) 9:00–2:00 (Sat)	1-610-668-3030	1-610-667-0652	usatech@primavera.com
London, England, UK	GMT	8:30–6:30 (Mon–Thur) 8:30–5:30 (Fri)	44-20-8563-5555	44-20-8563-5543	uktech@primavera.com
Kowloon, Hong Kong, SAR	GMT+ 8 hours	9:00–5:30 (Mon–Fri)	852-2111-8299	852-2111-9477	hktech@primavera.com

*For 24-hour support, visit Primavera's online Knowledgebase at http://www.primavera.com/support.

In the United States, Primavera periodically and randomly monitors technical support calls to ensure that you receive the highest quality support.

All Primavera products are backed by comprehensive support and training. To request product literature, contact your local dealer, call Primavera at 1-610-667-8600, or send your request via e-mail to **info@primavera.com** in the United States. In the United Kingdom, call 44-20-8563-5500 or e-mail your request to **intlinfo@primavera.com**. In Hong Kong, call 852-2111-8288, or e-mail your request to **hkinfo@primavera.com**.

Part 1

Overview and Configuration

In this part:

Introducing Primavera Enterprise

P3e Quick Tour

Defining Administrative Preferences and Categories

Setting Up User Preferences

Read this part to learn more about enterprise project management and Primavera's suite of products developed to support it. *Introducing Primavera Enterprise* discusses Primavera's enterprise approach to managing projects and describes each component in the Primavera Enterprise suite. It also defines the various enterprise-wide project management roles, explains how these roles can use Primavera Enterprise to achieve their project goals, and provides an overview of the methods used to successfully manage and control projects. *P3e Quick Tour* introduces key concepts in Primavera Project Planner for the Enterprise (P3e), the project manager component of Primavera Enterprise. In addition, it explains how to perform basic P3e tasks, such as opening a new project and using wizards. This part also describes how to define global and project parameters and user-specified preferences to customize your use of P3e. Read the *Defining Administrative Preferences and Categories* chapter to learn how to apply a series of parameters and values that apply to all projects. The *Setting Up User Preferences* chapter explains how to customize P3e to fit your special needs.

Introducing Primavera Enterprise

In this chapter:

Primavera Enterprise is a robust suite of products designed to support the project management needs of organizations that manage large numbers of projects at one time.

These integrated applications use enterprise project management to support the management needs of project teams across multiple disciplines, in different locations, and at varying levels of the enterprise.

This chapter provides an overview of enterprise project management, the components that make up the Primavera Enterprise suite, the roles used in enterprise project management, and the basic concepts for planning, managing, and controlling your projects.

Why Use Enterprise Project Management?

Large businesses typically have hundreds—even thousands—of projects underway at one time to create the new products and services that build their future. These projects cross normal business hierarchies and chains of command, making project management an enterprise-wide, cross-disciplinary challenge. The pressure to complete projects on time and within budget, *and* maintain a competitive edge, is driving corporations to develop and implement project management processes. They are moving away from a traditional functional structure to a multiple-project organization that must achieve clear, but urgent goals, using limited, shared resources, and they need the fastest business payback from those projects to realize potential revenue and increase shareholder equity.

Enterprise project management provides comprehensive information on all projects in an organization, from executive-level summaries to detailed plans by project. Individuals across all levels of the company can analyze, record, and communicate reliable information and make timely, informed decisions that support their corporate mission. By putting the right tool in the right hands, enterprise project management enables an organization to

- Make strategic business decisions
- Control the minute detail that is necessary to finish projects
- Understand current resource demands, set priorities, and evaluate long-term staffing requirements
- Use skilled resources effectively and productively
- Reorganize projects to fit shifting priorities without sacrificing quality

What Is Primavera Enterprise?

Primavera Enterprise is a set of integrated components that meet the needs of different areas in the enterprise. It uses standard Windows interfaces, client/server architecture, Web-enabled technology, and stand-alone (InterBase) or network-based (Oracle and Microsoft SQL Server) databases. The suite consists of the following components:

- Primavera Project Planner for the Enterprise (P3e)
- Primavera Portfolio Analyst
- Primavera Progress Reporter
- Primavision
- Primavera Software Development Kit (SDK)

Primavera Project Planner for the Enterprise (P3e) P3e is project management software that enables users to track and analyze performance. It is a multiuser, multiproject system with scheduling and resource control capabilities supporting multitiered project hierarchies, durations and scheduling in time units as small as minutes, resource scheduling with a focus on roles and skills, recording of actual data, customizable views, and user-definable data.

P3e is ideal for organizations that need to simultaneously manage multiple projects and support multiuser access across a department or the entire enterprise. It supports an enterprise project structure (EPS) with an unlimited number of projects, activities, baselines, resources, work breakdown structures (WBS), organizational breakdown structures (OBS), user-defined codes, and critical-path-method (CPM) scheduling and resource leveling. Large-scale implementations of P3e for enterprise project management use P3e with Oracle or SQL Server as the project database.

P3e also provides centralized resource management. This includes resource timesheet approval and the ability to communicate with project resources who use Progress Reporter, Primavera Enterprise's Web-based timesheet management application. In addition, P3e provides integrated risk management, issue tracking, and management by threshold. The tracking feature enables you to perform dynamic cross-project rollups of cost, schedule, and earned value. Project reference documents can be assigned to activities and managed centrally. P3e's Report Wizard helps you create customized reports that extract specific data from the P3e database.

Primavera Portfolio Analyst Primavera Portfolio Analyst is an executive reporting tool, providing senior managers with the summary view of project data that their roles require. Executives can quickly group projects for comparisons and analysis and drill down to see any level of detail through an extensive set of graphics, spreadsheets, and reports.

Primavera Progress Reporter Primavera Progress Reporter is a Web-based interproject communication and timekeeping system. As a team-level tool for project participants, it helps team members focus on the work at hand with a simple cross-project to-do list of their upcoming assignments. It also provides views of project changes and timecards for manager approval. Because team members use Progress Reporter to enter up-to-the-minute information about their assignments and record time against their workloads, project leaders can make crucial project decisions with the confidence that they have the most current information possible.

Primavision Primavision is a Web site that allows users to access project management data via the Internet. Users can view data and perform limited project management functions using their Web browsers. Primavision must be installed on a Web server.

Primavera Software Development Kit The Primavera Software Development Kit (SDK) enables you to integrate the data in the project management database with external databases and applications. It provides access to the schema and to stored procedures that encapsulate business logic. The SDK supports the Open Database Connectivity (ODBC) standard and ODBC-compliant interfaces, such as OLE-DB and JDBC, for connecting to the project management database. The SDK must be installed on any computer that needs to integrate with the Primavera Enterprise database.

Your Role in the Enterprise

By definition, enterprise project management must meet the needs of several types of users. The following section describes the enterprise roles as they typically apply to the applications in the Primavera Enterprise suite. Roles may vary or overlap depending on the organization.

Network administrators Network administrators configure an enterprise's network environment (local- and wide-area networks) for optimal performance with Primavera Enterprise. They install and maintain the server and client components of Primavera Enterprise. In addition, they manage user access to enterprise data and develop and maintain a comprehensive security policy to ensure that project management data are protected from unauthorized access, theft, or damage.

Network administrators ensure that the hardware and software supporting Primavera Enterprise function reliably by

- Setting up and maintaining the network to ensure reliable connections and the fastest possible data transfer
- Creating and maintaining accurate lists of network resources and users so that each has a unique network identity

Database administrators Database administrators (DBAs) are responsible for setting up, managing, and assigning access rights for the project management database. They set and oversee rules governing use of corporate databases, maintain data integrity, and set interoperability standards.

Database administrators ensure reliable access to the Primavera Enterprise database by

- Installing, configuring, and upgrading database server software and related products as required
- Creating and implementing the database
- Implementing and maintaining database security, including creating and maintaining users, roles, and privileges for the database
- Monitoring database performance and tuning as needed
- Planning for growth and changes and establishing and maintaining backup and recovery policies and procedures

Operations executives Operations executives are responsible for strategic planning and ongoing performance analysis. They use P3e and Portfolio Analyst to analyze projects that are underway to identify and monitor problem areas and analyze past projects to apply lessons learned when planning future projects.

Senior executives may be responsible for

- Prioritizing projects
- The profit/loss for a specific business entity
- Funding and go/no-go decisions about projects
- Strategic planning over the future of the business or division

Project controls coordinators Project controls coordinators are responsible for ensuring that P3e is implemented properly and that it operates smoothly. They play a key role during implementation by

- Working with operations executives and program/project managers to structure project, OBS, and resource hierarchies, set up basic calendars, and define enterprise-wide custom fields and codes in P3e
- Working with the network administrator to create user accounts and user groups for P3e
- Assigning security rights to P3e users in P3e

Program and project managers Program managers oversee several high-level project managers; they are responsible for multiple projects and use P3e, Portfolio Analyst, and Primavision to

- Add projects to the P3e database
- Perform cross-project analysis
- Manage projects to on-time and on-budget completion
- Prioritize resources across projects
- Plan projects before they are funded

Project managers manage multiple small, repetitive projects or a single, complex project. They are responsible for on-time/on-budget completion of the projects and use P3e to allocate specific named resources to a project in conjunction with the functional manager of those resources, communicate project information both up and down the chain of command, and manage resources related to the project.

Resource/cost managers Resource managers allocate resources across projects and distribute their workloads. They are responsible for resource planning, including recruiting, hiring, and training resources, and they may be responsible for loading resource information in P3e. Cost managers perform detailed financial analysis of projects, handle project billing, and integrate financial information within the company.

Team leaders Team leaders manage the work for a portion of a larger project. They are managers who produce work and manage a team, and they often use P3e and Progress Reporter to prioritize short-term tasks or objectives, typically when the duration is less than the planning period of the project.

Team members Team members are trained in a specific skill required on a project. They work with their manager to develop activities and durations for incorporation into the schedule. Once activities are added to the schedule, team members update them using Progress Reporter to indicate the work they performed during designated accounting periods.

Project Management Process Overview

When contractors develop plans for a building, one of the first steps is laying a foundation. This is also a true for building projects using P3e. The hierarchical structuring of data serves as the foundation before the addition of actual project data. The following is a suggested sequence for setting up these structures:

- Set up the organizational breakdown structure (OBS), which is the hierarchical arrangement of your company's management structure, either as roles or individuals.
- Set up the enterprise project structure (EPS), which is the hierarchical structure that identifies the company-wide projects and enables organization and management of those projects in your organization.
- Set up a resource hierarchy that reflects your organization's resource structure and supports the assignment of resources to activities.
- For each project, set up the work breakdown structure (WBS), which is a hierarchical arrangement of the products and services produced during and by a project.

For information about setting up security, see the *Primavera Enterprise Administrator's Guide.*

Project controls coordinators, working with operations executives and program/project managers, structure the OBS and EPS hierarchies. Setting up the OBS first enables association of the responsible managers with their areas of the EPS—either nodes or projects—when the EPS is structured. In P3e, user access and privileges to nodes and projects within the EPS hierarchy are also implemented via a responsible OBS, so the security profiles that monitor data access by project participants can be established early on in the process.

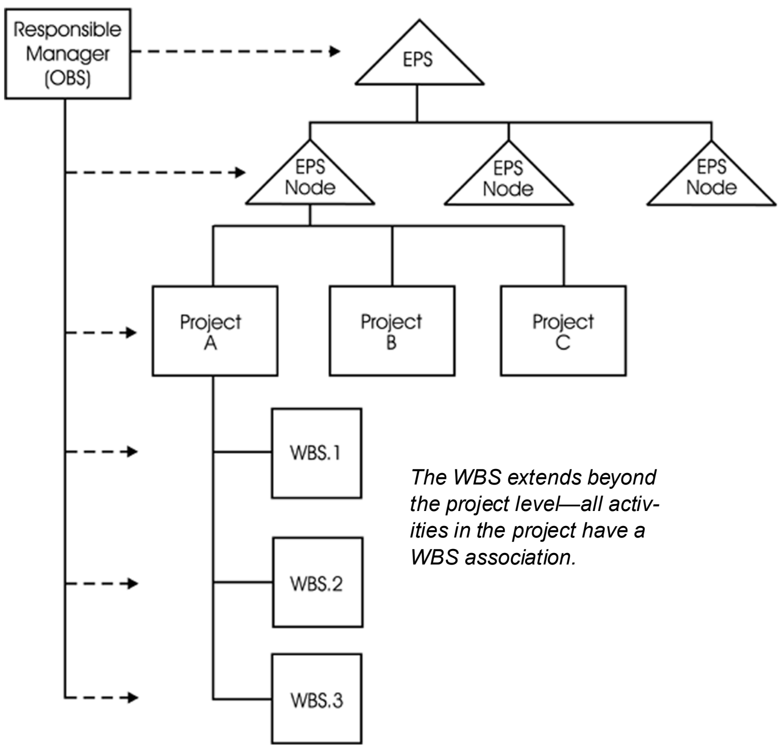
Once the OBS is established, the EPS can be set up. An EPS can consist of multiple root nodes, which enable particular types of projects to be grouped together, such as project templates or high-risk projects. Within each root node, you can further break down an EPS into multiple EPS nodes, such as Construction Projects, Engineering Projects, and Manufacturing Projects, to categorize the types of templates projects.

The WBS acts as a continuation of the EPS for the individual projects in the enterprise. A WBS provides organization and control of project and activity information through a hierarchy of WBS elements. When you create projects, P3e automatically creates a WBS element at the same hierarchy level and with the same name as the project. P3e enables you to set anticipated project dates, budgets, and spending plans for a WBS at a high level to indicate when the work should occur and how much its planned budget and monthly spending will be before any projects are added to the EPS. You can use the pre-established budget amounts and funding information you set for WBS elements for their project and activity counterparts.

For details on setting up these structures, see the applicable chapters in Part 2.

The following example represents how the OBS, EPS, and WBS structures interrelate within one branch of the EPS.

The responsible manager used for the root node in the EPS branch is used as the default for the EPS nodes and projects for that branch; you can change the assignment(s).



The WBS extends beyond the project level—all activities in the project have a WBS association.

Planning, Controlling, and Managing Projects

Before implementing P3e to schedule projects, team members and other project participants should understand the processes involved in project management and the associated recommendations that help smooth implementation of the software that supports your corporate mission.

If you were driving to a place you had never seen, would you get in the car without directions or a map? Probably not. More than likely you'd take the time to plan your trip, consider alternate routes, and estimate your time of arrival. Planning the drive before you even left would help your trip be more successful. And, along the way, should you encounter road blocks or traffic delays, you would have already identified alternate ways to reach your destination.

Project management follows the same methodology and purpose—to achieve your project goals, you need to plan them in advance. Good project management is no longer an option in today's corporate world. It is a critical tool to help your company stay on target and accomplish its goals.

Simply stated, project management is the process of achieving set goals within the constraints of time, budget, and staffing restrictions. It allows you to get the most out of your available resources. Resources include

- People
- Materials
- Money
- Equipment
- Information
- Facilities
- Roles

Project management across the enterprise factors in all of these variables across multiple projects, enabling project managers and company executives to see an accurate picture of how each project's resource use affects other projects.

The process of project management is guided by three key principles:

- Planning
- Controlling
- Managing

Planning a project The first step in project management is to define your project.

1. *What is the scope of the work*? What activities will make up the project and what is their relationship to each other? You'll also want to identify the major milestones that will help you monitor the project's progress.
2. *What is the project duration?* What are the dates when the project will begin and end?
3. *What resources are available to the project?* Beyond labor, think about all the types of resources you will require.
4. *Who will perform what tasks?* Determining your labor resources and their available workhours is a key part of building a successful project. You'll need to plan for downtime and holidays and determine the regular workweek for various staffing types.
5. *How much will the project cost?* What are the costs per resource? Are there any hidden project costs?
6. *What is the estimated budget?* Establishing a project budget estimate in advance helps you monitor possible cost overruns.

The answers to these questions form the framework of your project.

Controlling a project Once you have built your project and estimated your budgeting needs, you save this original plan as a *baseline,* or *target schedule*, to help you control the project. A baseline provides a solid point of reference as your schedule changes over time. It allows you to compare the original schedule to the current one and identify significant changes and develop contingency plans.

You control a project to keep it heading in the right direction. You'll want to track work progress and costs, compare them to your baseline, and then recommend what actions should be taken.

Effective project control reaps many benefits. It allows you to keep a close eye on possible problems before they become critical. It lets the project team and senior management view cost and scheduling timeframes based on the reality of the schedule.

Managing a project The process of guiding a project from start to finish is the responsibility of a project manager. A good project manager wears many hats, acting at various times as a motivator, communicator, coordinator, and advisor. As you control the project's progress, it is your job to keep your team aware of changes to the schedule and possible consequences. In many ways, you are the project's ambassador, ensuring that your project organization is carrying out its responsibilities for the best possible outcome.

To be an effective project manager also requires consistency when you update your projects. Select a day each week, or biweekly, when you will regularly update projects. This regular update will include progress on values such as

- Dates on which activities started or finished
- Dates when resources are consumed
- Changes to resource rates

Determine a standard policy for the update and scheduling procedure, and for reporting progress.

P3e provides many tools to assist you in reporting progress to both team members and senior management. Use the Project Web Site option to create a central location where team members can view project progress. Consider the many tabular and graphical system reports as a means for communicating change. In addition, senior management can use Portfolio Analyst to summarize project data and easily capture a snapshot of how a project or group of projects is progressing.

P3e Quick Tour

In this chapter:

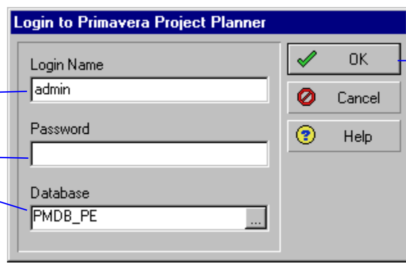
This quick tour introduces you to Primavera Project Planner for the Enterprise (P3e) and the P3e workspace. It discusses the layout approach to viewing data and includes sample layouts to help you start creating your own. You will also learn the basic steps for starting P3e, opening a project, and using wizards to speed up your work.

Getting Started

The P3e installation process guides you through setting up P3e on your computer. Refer to the *Primavera Enterprise Administrator's Guide* for detailed instructions.

Start P3e Click Start, then choose Programs, Primavera Enterprise, Primavera Project Planner.

Log in Before using P3e, you must enter a valid login name and password. If you do not know your login name and/or password, see your system administrator.



1 Type your login name.

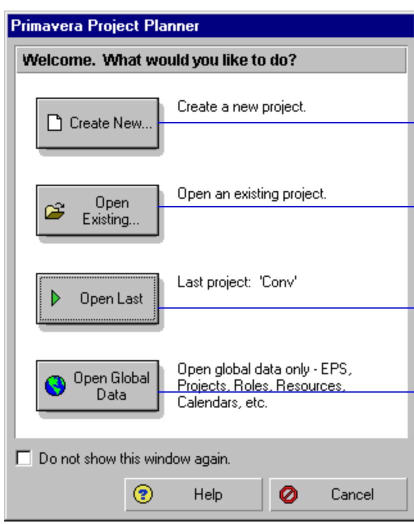
2 Type your password.

3 Accept the default database shown, or click the Browse button to select another database.

4 Click to open the Welcome dialog box.

P3e passwords are case-sensitive.

Use the Welcome dialog box to create a new project, open an existing project or the last open project, or open global data only.



Starts the Create a New Project wizard for adding a new project

Displays the Open Project dialog box for selecting an existing project or EPS node to open

Opens the last project you used

Opens P3e without opening or creating a project. Only global data and administrative functions are available.

Mark the Do Not Show This Window Again checkbox if you do not want the Welcome dialog box to appear each time you open P3e. P3e automatically opens the last project you used at startup. To turn this option back on, choose Edit, User Preferences, then click the Application tab and mark the Show the Welcome Dialog at Startup checkbox.

The P3e Workspace

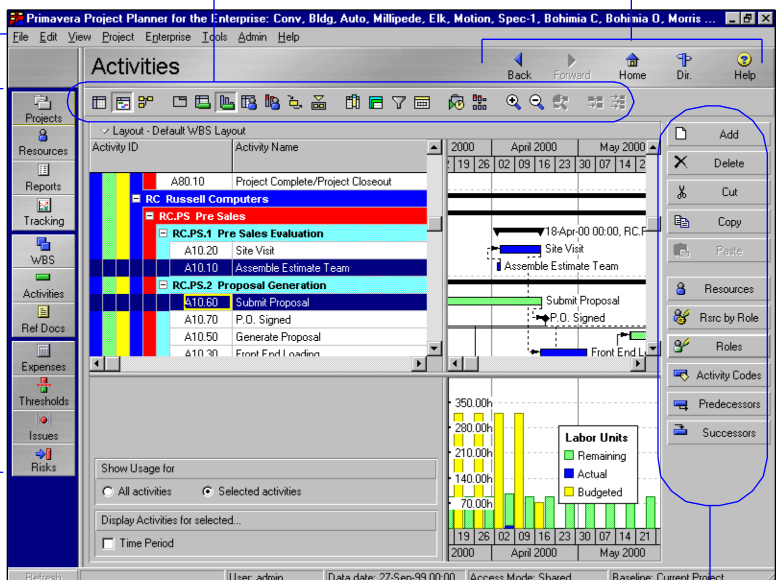
When you first open a project, the Home workspace displays the main functions available in P3e. For example, click Activities to focus on activity data and customize layouts. The P3e workspace for each main window consists of a menu bar, navigation bar, directory, toolbar, and command bar.

Use the toolbar to quickly access P3e options that pertain to the window displayed and to change the look of your layout.

Use the navigation bar to move between open windows, display and hide the directory, and open help quickly for a specific window.

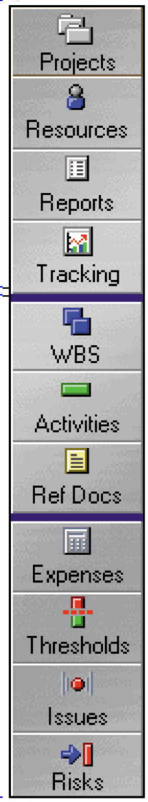
Choose a menu to open a list of commands.

Use the directory to switch your focus.



Command bar

Display the directory Use the directory to display P3e windows quickly. Choose View, Toolbars, Directory, to display or hide the directory. To display or hide directory bar button text, choose View, Toolbars, Directory Button Text.



Display data at the enterprise level

Displays the Projects window. Use to globally review the global enterprise project structure (EPS), and to work with individual projects.

Displays the Resources window. Use to add or modify your organization's resources.

Displays the Reports window. Use to produce reports for all projects or the open project.

Displays the Tracking window. Use to display and create tracking layouts for the open project.

Display data at the project level

Displays the Work Breakdown Structure window. Use to add or modify the open project's work breakdown structure (WBS).

Displays the Activities window. Use to work with activities in the open project.

Displays the Reference Documents window. Use to create and assign reference documents for the open project.

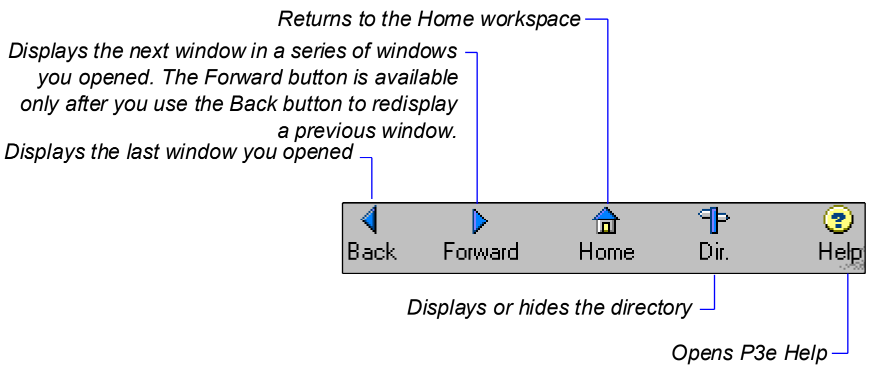
Displays the Project Expenses window. Use to work with expense items for the open project.

Displays the Project Thresholds window. Use to add or delete thresholds for the open project.

Displays the Project Issues window. Use to add or delete issues for the open project, review issue history, and notify other team members of issues.

Displays the Project Risks window. Use to add, delete, or calculate risks for the open project.

Display the navigation bar Use the navigation bar to move between open windows. You can also use the navigation bar to display and hide the directory and open help for the current window or dialog box. The navigation bar is displayed or hidden when you choose View, Toolbars, Navigation Bar. To display or hide navigation bar button text, choose View, Toolbars, Navigation Bar Button Text.



Use shortcut menus Instead of using standard menus and buttons, you can also use the right mouse button to access frequently used commands. To use shortcut menus, right-click an element or the white space in any window, then choose the appropriate command.

Select multiple items To select a group of items that are next to each other in the display, hold down the Shift key, click the first item in the group, then click the last item in the group. To select multiple items that are not next to each other in the display, hold down the Ctrl key, then click each item you want to select.

What Is a Layout?

When working with activities in the Activities window, you can create layouts. A layout is a customizable view of project information. To customize a layout to meet specific needs, you can choose from a wide range of project information, columns, colors, fonts, and activity groupings, and you can display these data in the top and/or bottom layouts. For example, show a Gantt chart in the top layout and an Activity table in the bottom layout. Each time you change the way data are presented in the top and bottom layouts, you create a unique layout. P3e automatically prompts you to save a layout when you close it, allowing you to define a unique name for it so you can use the layout again with the current project or a different project.

You can also customize the table and Gantt chart in the Projects window.

Activity Table displays activity information in spreadsheet format. Use this type of layout to quickly update a project. You can use filters and group data to see only those activities that occur in your current status cycle. You can customize Activity table columns. You can also sort, filter, and group activities in the Activity table, as well as change the font of the activity information and the color of the table background. The Activity table can be displayed in the top and bottom layouts.

Gantt Chart provides a graphical display of activity progress over the course of the project. You can customize Gantt chart bars, colors, labels, and symbols. You can also sort, filter, and group activities in the Gantt chart. The Gantt chart can be displayed in the top and bottom layouts.

Activity Usage Spreadsheet displays units, costs, or earned value data by activity over time. Use this type of layout to review per period and rolled up activity resource/cost data. The Activity Usage spreadsheet can be displayed in the top and bottom layouts.

PERT provides a graphical display of activities, including logical relationships. You can specify which information you want to display, and you can change PERT colors and fonts. You can also group and filter activities in PERT. (PERT can be displayed in the top layout only.)

Activity Details display detailed information for an activity you select in either the Activity table or PERT. You can also use Activity Details to enter and edit an activity's information, such as dates, resource assignments, and predecessor and successor relationships. (Activity Details can be displayed in the bottom layout only.)

Resource Usage Spreadsheet displays resource data in spreadsheet format. This approach is helpful when you are updating and maintaining both your organization's resource hierarchy and individual resource information. (The Resource Usage spreadsheet can be displayed in the bottom layout only.)

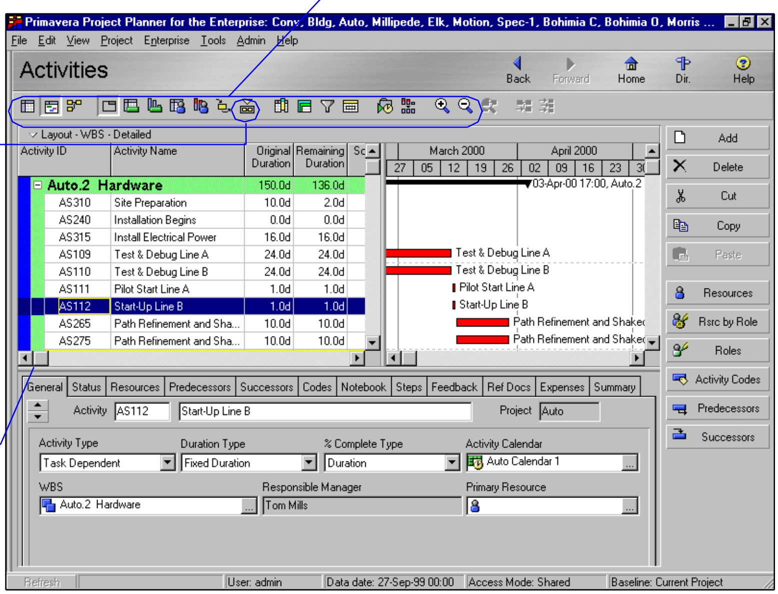
Activity Usage Profile displays a time distribution of activity units and costs in a Bar chart format. You can customize all aspects of the Activity Usage profile display. You can also filter activity information in the Activity Usage profile. (The Activity Usage profile can be displayed in the bottom layout only.)

Resource Usage Profile displays a time distribution of resource units and costs in relation to activities in a Bar chart format. You can customize all aspects of the Resource Usage profile display. You can also filter activity and resource information in the Resource Usage profile. (This profile can be displayed in the bottom layout only.)

Trace Logic provides a graphical display of dependency relationships for an activity you select in either the Activity table or PERT. (Trace logic can be displayed in the bottom layout only.)

Use toolbar icons to customize the layout.

To completely close the lower layout and view only the data in the top layout, click the Hide Bottom Window icon.



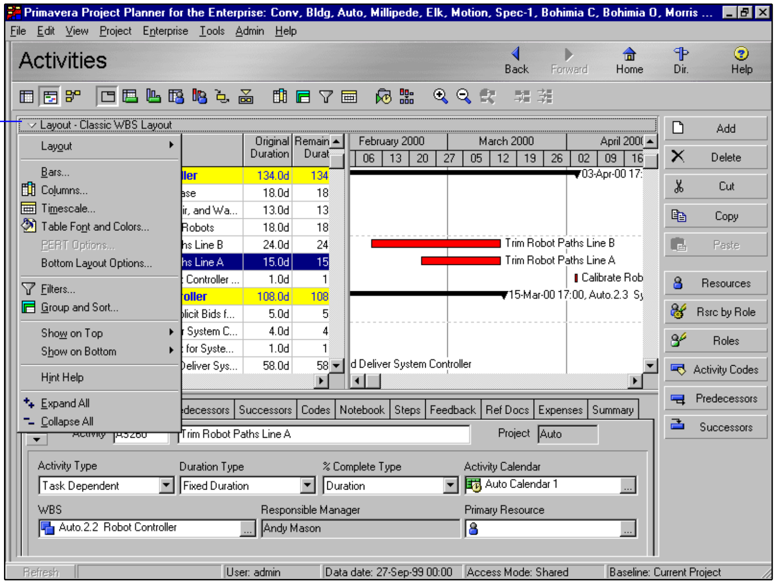
To hide or show more of the information in each pane, drag the horizontal split bar between the two layouts.

In this sample layout, the top part of the window shows activity data in a Gantt chart, and the lower part of the window displays the activity details.

Customizing Displays

Most P3e windows and dialog boxes include an options bar at the top of the screen that contains a number of commands that enable you to customize the current display. Click this bar to display a menu of the commands available for that window or dialog box.

Click the Layout Options bar to display a menu of the options available for the Activities window.

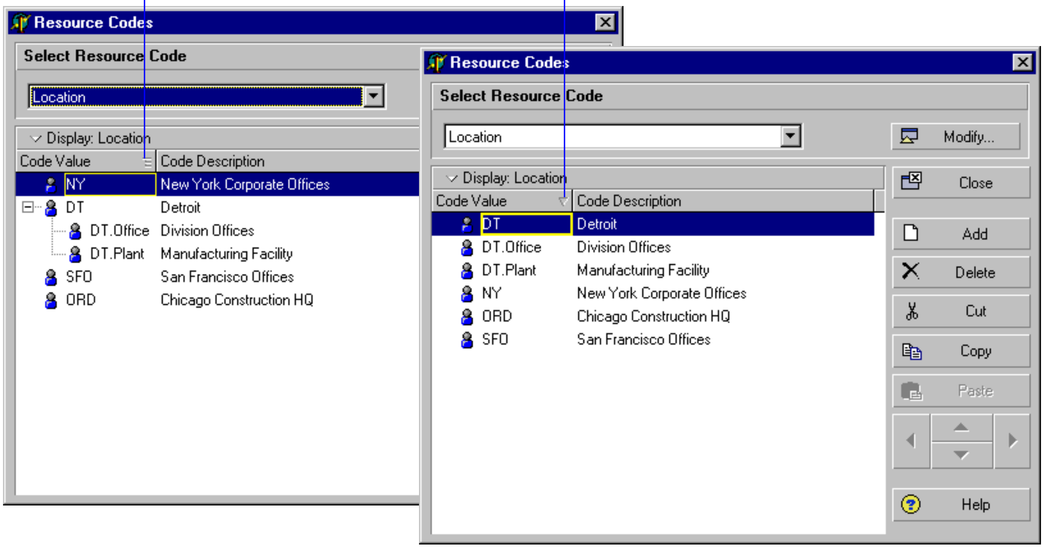


For details about customizing and printing layouts, see the *Customizing and Printing Layouts* chapter.

P3e also enables you to switch your display from a hierarchical view to a list view when displaying information, such as resources and the work breakdown structure, that is displayed in different levels. To switch a display from hierarchy to list view, click the leftmost column label that appears in the display.

An outline icon in the leftmost column label indicates a hierarchy view.

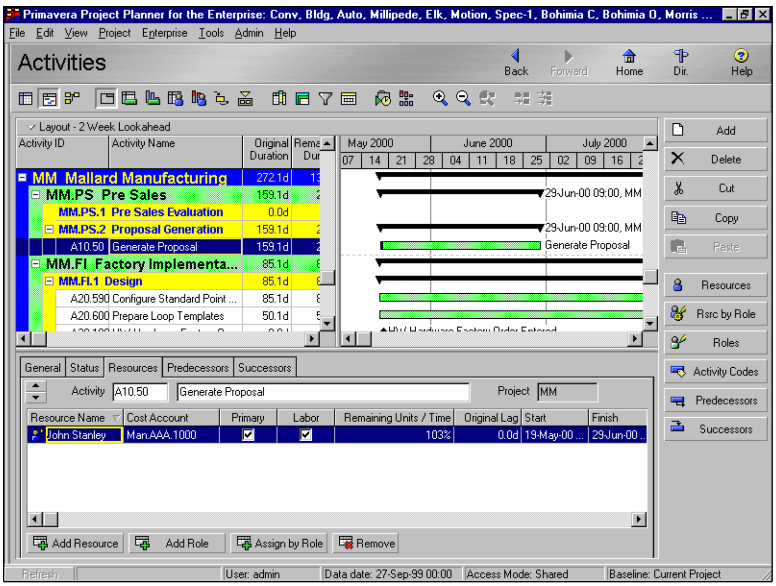
A triangle in the leftmost column label indicates a list view.



Sample Layouts

The sample database included with P3e provides standard layouts that you can use with your own projects.

To open a sample layout, first open one of the projects from the sample database or your own database in the Activities window, then choose View, Layout, Open.

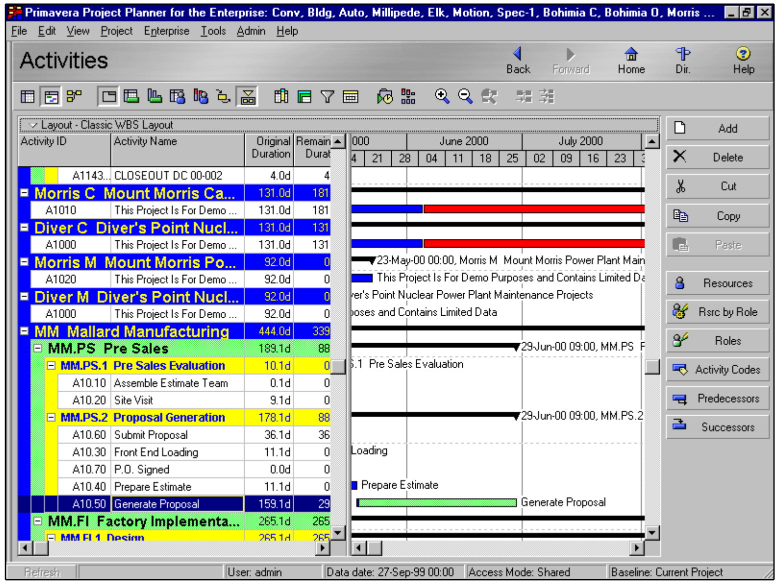


Two-Week Lookahead Layout

This layout provides a snapshot of upcoming work by filtering the project activities scheduled to start within the next two weeks. The Gantt chart on the top right displays the activity data graphically, while the Activity Details (below) show specific types of activity information.

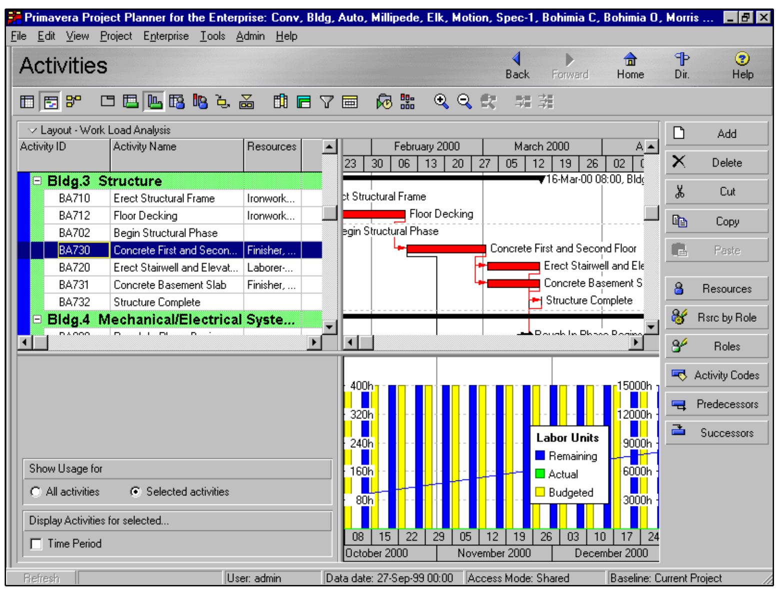
Classic WBS Layout

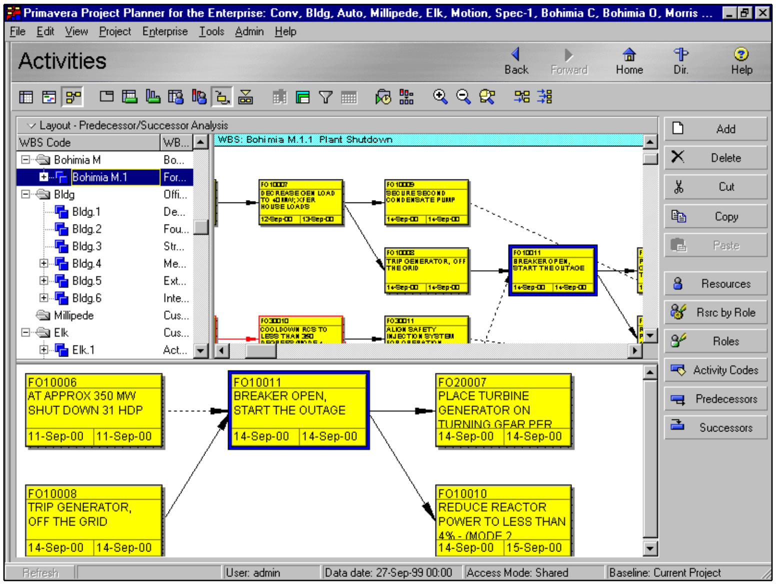
In this sample layout, you can view your project data based on the project's work breakdown structure (WBS).



Work Load Analysis Layout

This layout enables you to see a summary of project workload levels.





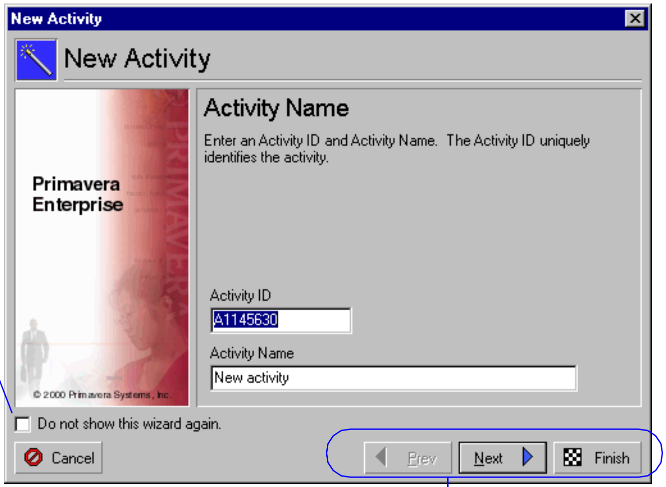
Predecessor/Successor Analysis Layout

This PERT layout enables you to view your project graphically, by predecessor and successor relationships. Click the PERT boxes to move along the critical path of the project, or right-click to make changes to the data.

Using P3e Wizards

Wizards are a great way to speed up your work. They quickly guide you through repetitive steps, doing most of the work for you.

P3e contains wizards for creating new projects, adding activities, creating resources, and building reports.

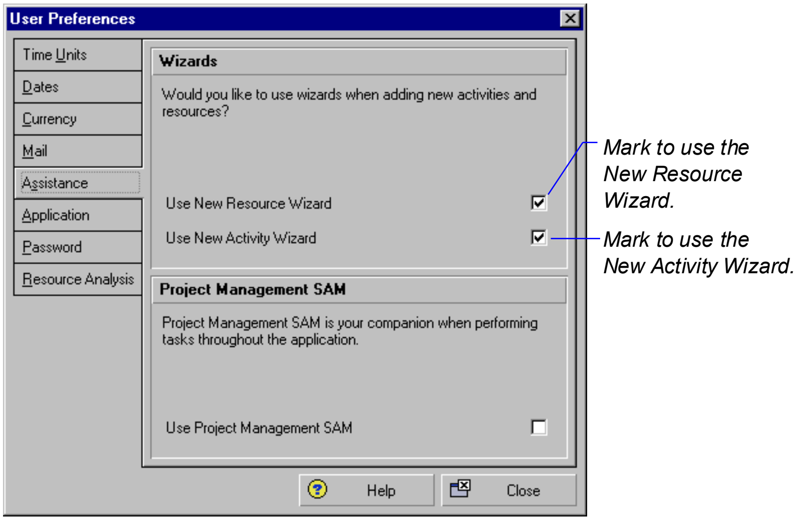


If you prefer to work without wizards, mark this checkbox on the first dialog box of each wizard or choose Edit, User Preferences, Assistance, and set your choices in the Wizards section.

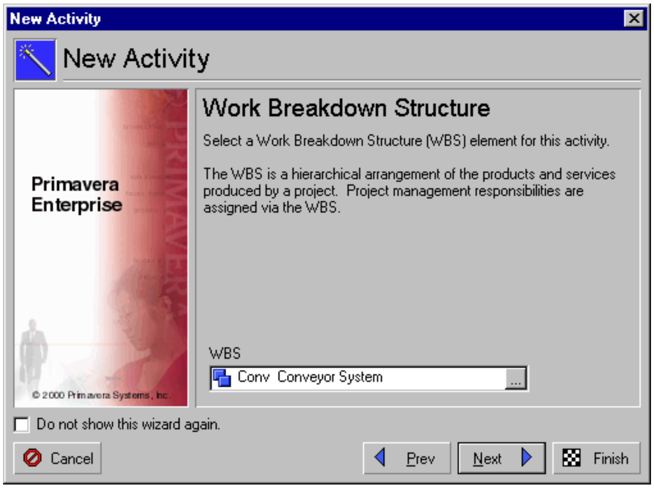
*These navigation buttons step you through the wizard. Click **Prev** to change your previous entries and **Next** to move forward.*

You can specify whether you want P3e wizards to help you add activities and resources. Other wizards are also available to create new projects, export and import project data, and define administrative preferences. Wizards are discussed in more detail in the appropriate chapters of this manual.

Set wizard options Choose Edit, User Preferences. Click the Assistance tab.



Navigate wizards To move between different wizard windows, click Prev or Next. To save your changes and close the wizard at any time, click Finish. To close the wizard without saving your changes, click Cancel.



Defining Administrative Preferences and Categories

In this chapter:

P3e enables your organization to define a series of application-wide parameters and values that apply to all projects in an enterprise project structure (EPS). Use these settings to customize P3e to meet specific project management requirements and standards. While all P3e users can view these settings, a user must have special security privileges to edit them.

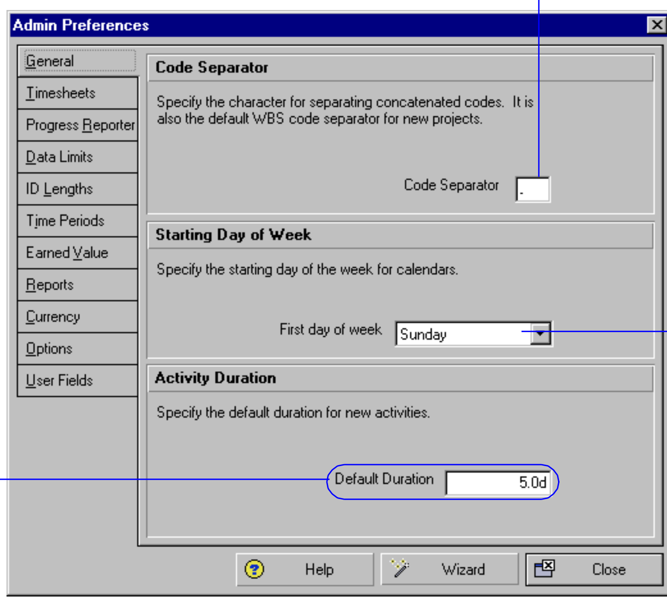
This chapter discusses the two types of settings you can specify: Administrative Preferences, which are default settings used in P3e, and Administrative Categories, which are standard values that apply to all projects in P3e.

Setting P3e Default Settings

Use the Admin Preferences dialog box to specify default P3e settings established by the project controls coordinator. Choose Admin, Admin Preferences.

General information Use the General tab to specify general default options, such as the weekday on which the calendar week begins. You can also change the character used to separate hierarchy levels in resource, project, and activity codes; roles; cost accounts; and WBS elements.

The character that separates hierarchy levels in roles, resource codes, project codes, cost accounts, and activity codes; it is also the default separator for WBS codes in all new projects. You can enter a WBS code separator for specific projects in the Settings tab of Project Details.



The first day of the week for global, project, and resource calendars

The default duration for new activities in all projects; simplifies the process of adding new activities

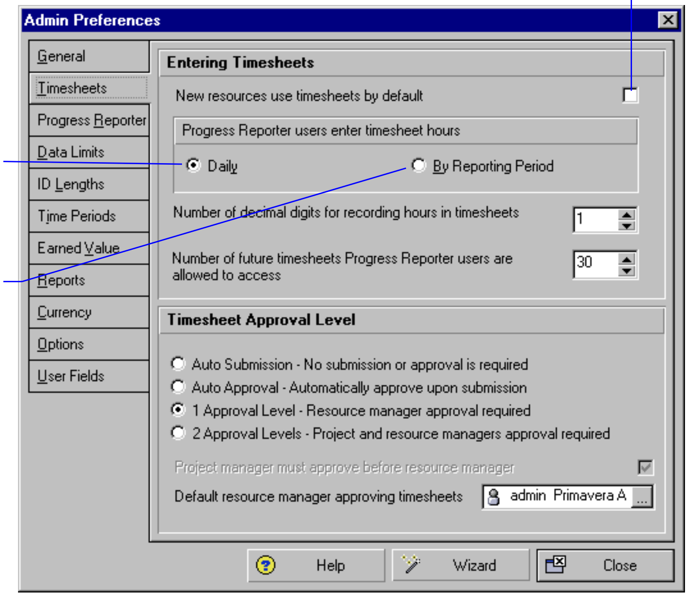
The start day of the week affects how all days in a week are displayed in profiles, spreadsheets, and other layouts in which a weekly timescale can be displayed. For example, if Wednesday is selected as the starting day of the week, the week is displayed as WTFSSMT in an Activity Usage profile.

Timesheets Use the Timesheets tab to specify default setup options when using Progress Reporter.

Mark to require that all new resources use timesheets, unless you specify otherwise.

Choose to require that all resources report their hours on a daily basis for each assigned activity.

Choose to require that all resources report their hours as a single time value for each assigned activity in a timesheet reporting period, regardless of the number of days included in the timesheet period.



The Timesheet Approval Level section contains the following options:

- **Auto Submission –** Choose to indicate that resource timesheets do not need to be submitted or approved. Timesheet data are automatically updated in the database when you apply actuals.

- **Auto Approval –** Choose to indicate that resource timesheets do not require management approval. Timesheets are approved automatically when they are submitted.

For more information on implementing Progress Reporter, see the *Primavera Enterprise Administrator's Guide.*

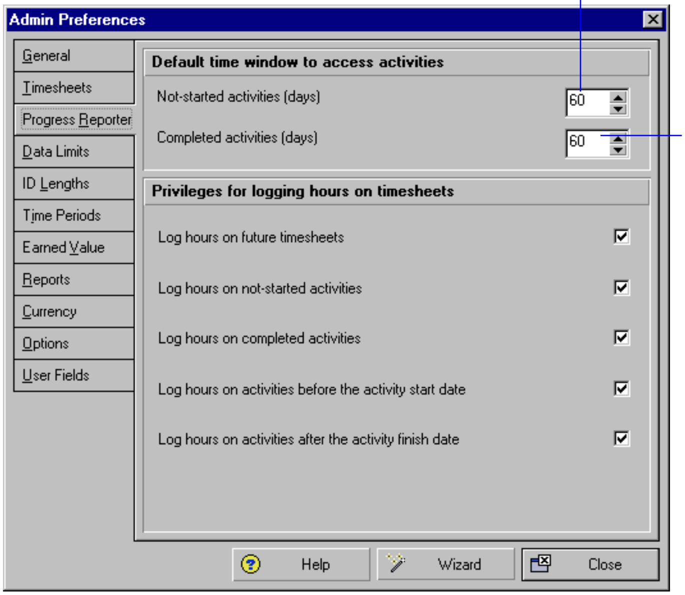
- **1 Approval Level –** Choose to indicate that resource timesheets require approval by the resource/cost manager only. If you select this option, the status of all submitted timesheets remains "Submitted" until the approving manager changes the timesheet's status. If you previously required both project manager and resource/cost manager approval, and you select this option, the status of all current timesheets that have received one level of approval changes to "Approved."

- **2 Approval Levels –** Choose to indicate that resource timesheets require approval by project and resource/cost managers. If you select this option, the status of all submitted timesheets remains "Submitted" until both managers approve the timesheet.

- **Project Manager Must Approve Before Resource Manager –** If you choose 2 Approval Levels, mark to indicate that project managers must approve timesheets before resource/cost managers.
- **Default Resource Manager Approving Timesheets** – The name of the manager who approves resource timesheets, unless you specify otherwise. Click the Browse button to select a new manager.

Progress Reporter Use the Progress Reporter tab to define Progress Reporter privileges for reporting hours.

The default number of days Progress Reporter users can preview an activity before it starts



The default number of days Progress Reporter users can review an activity after it ends

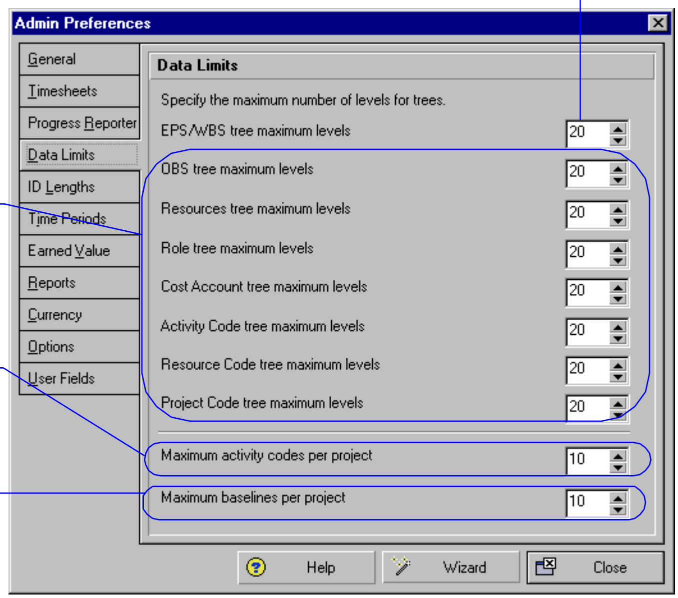
Data limits Use the Data Limits tab to specify the maximum number of levels for hierarchical structures. You can also specify the maximum number of baselines and activity codes that can be included in a project.

The maximum combined number of hierarchy levels in the EPS and WBS: 1 is the lowest, and 50 is the highest.

The maximum number of hierarchy levels in these structures: 1 is the lowest, and 25 is the highest.

The maximum number of activity codes in projects: 0 is the lowest, and 500 is the highest.

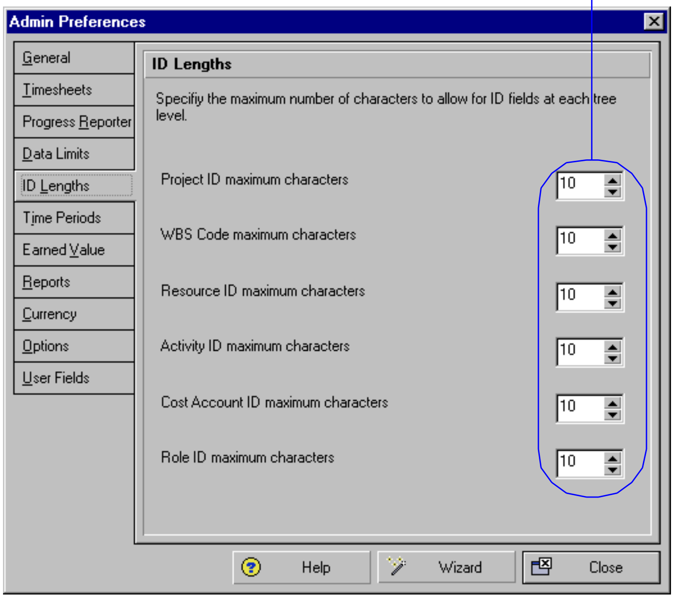
The maximum number of baselines in projects: 1 is the lowest, and 50 is the highest.



If you change maximum hierarchy level settings, the new settings apply only when you add new elements or edit existing elements.

ID lengths Use the ID Lengths tab to specify the maximum number of characters for IDs and codes.

The maximum number of characters in these IDs and codes: 1 is the lowest, and 20 is the highest.



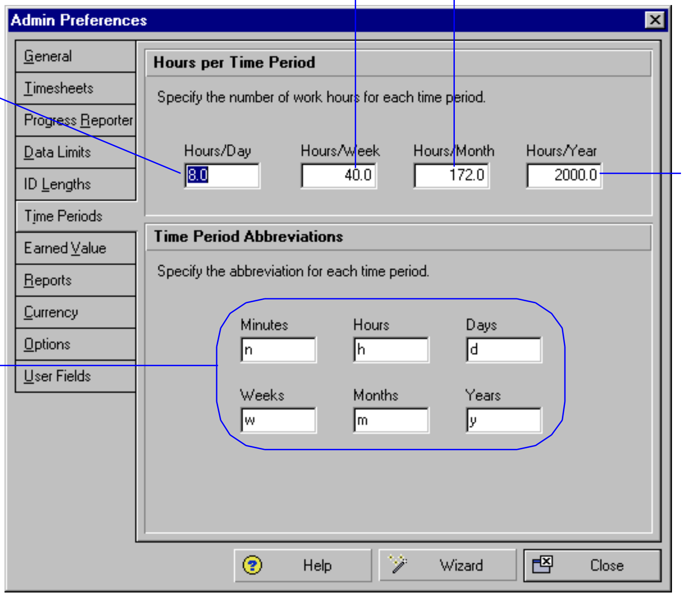
If you change the maximum number of characters in an ID or code, the new number applies only when you add new IDs/codes or edit existing IDs/codes.

Timeperiods Use the Time Periods tab to define the default number of hours in a workday, workweek, workmonth, and workyear. P3e uses these values as conversion factors when displaying the time units and duration display formats you select. You can also specify abbreviations for displaying minutes, hours, days, weeks, months, and years.

Valid entries range from 1.0 to 168.0.

Valid entries range from 1.0 to 744.0.

Valid entries range from 1.0 to 24.0.

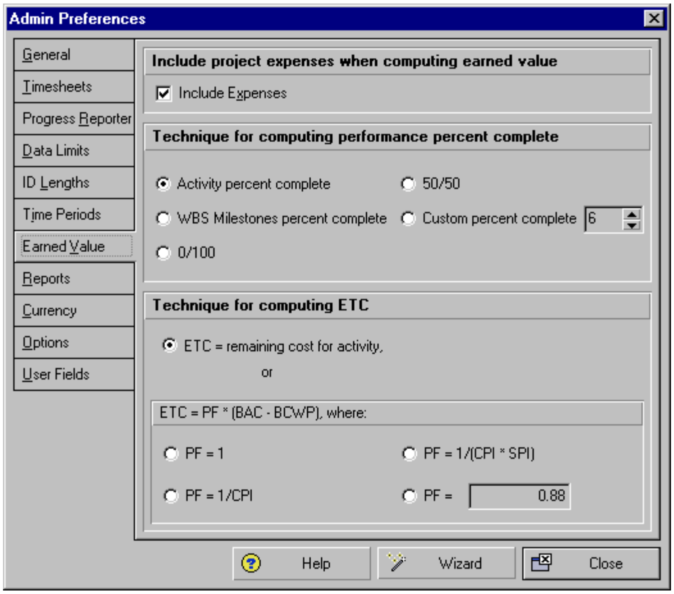


Valid entries range from 1.0 to 8784.0.

P3e uses these abbreviations when displaying the time units and duration display formats you select. You can type a new one-character abbreviation.

Earned value Use the Earned Value tab to specify default settings for calculating earned value. You can change the settings for specific WBS elements in the Earned Value tab in Work Breakdown Structure Details.

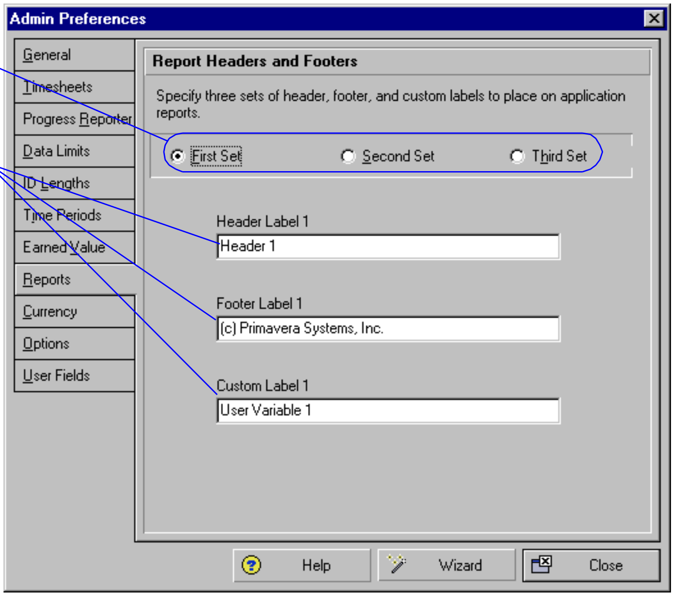
For details about the fields on the Earned Value tab, see the *Reviewing Work Breakdown Structures* chapter.



Reports Use the Reports tab to define up to three sets of headers, footers, and custom labels for reports.

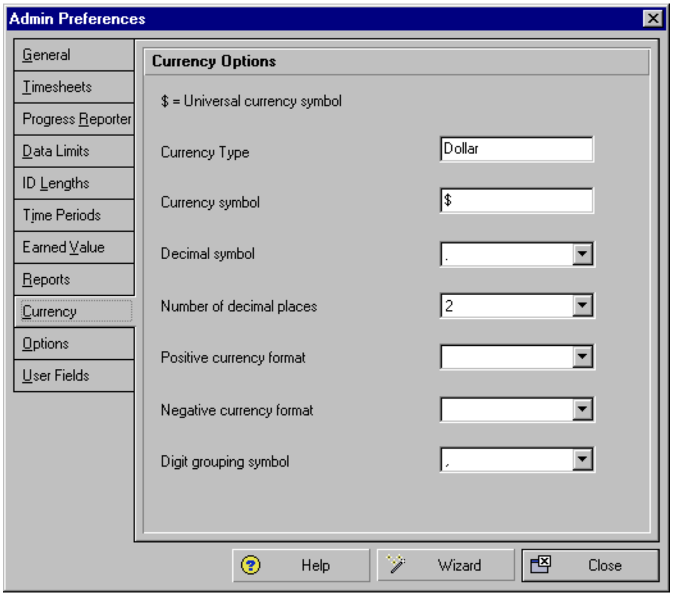
Choose to define a set that consists of a header, footer, and custom text label...

...then specify the custom text for that set's header, footer, and custom label.



Currency Use the Currency tab to define the default currency type and corresponding symbols and formats used to display currency in P3e.

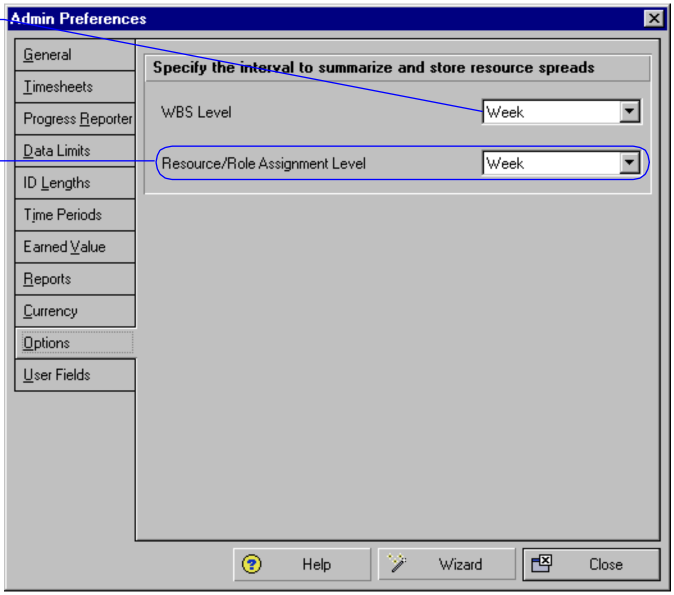
You can include/exclude the currency symbol and decimal digits using the Currency tab in the User Preferences dialog box.



Options Use the Options tab to specify the time interval to which cost and quantity summaries should be calculated for resource and activity spreadsheet displays.

The time interval to which activity costs and quantities should be summarized in spreadsheets

The time interval to which resource/role assignment cost and quantity amounts should be summarized in spreadsheets

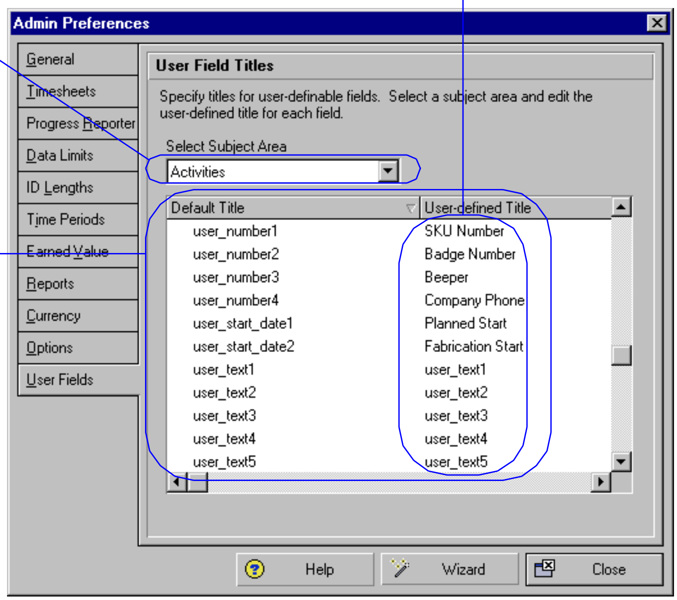


User fields Use the User Fields tab to set up your own fields in P3e. Assign these custom fields to projects, WBS elements, resources, activities, and resource assignments to expand the information available for tracking data. For example, create additional activity fields such as fabrication dates and management reserve, and add resource/cost fields, such as income and escrow accounts.

The user-defined titles for the custom fields.

The data type to which the user fields can be assigned in P3e; for example, assign a planned start date that applies to one or more activities to the Activities area.

The available customizable fields for the selected data type



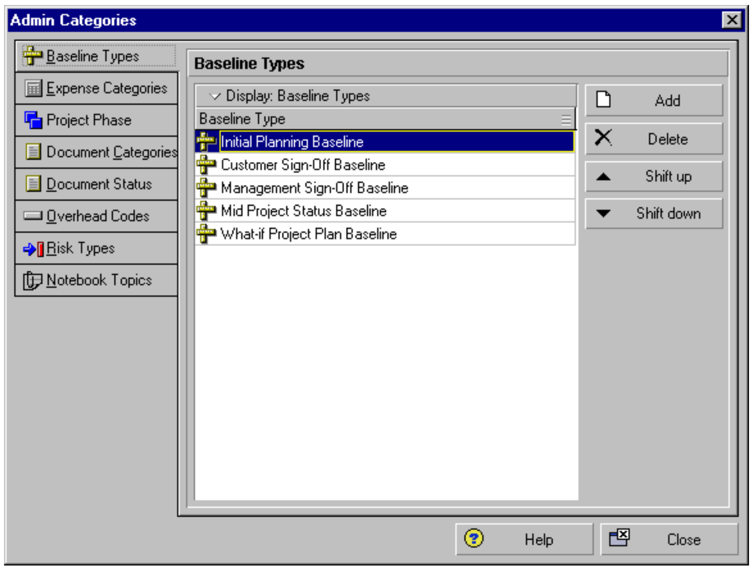
Once you create user-defined fields, you can display them in columns for the appropriate subject. For example, the available columns in the Activities window include the user-defined fields you customize for activities.

Defining Standard Categories and Values

Use the Admin Categories dialog box to define standard categories and values that you can apply to all projects. Choose Admin, Admin Categories.

For more information about baselines, see the *Managing Baselines* chapter.

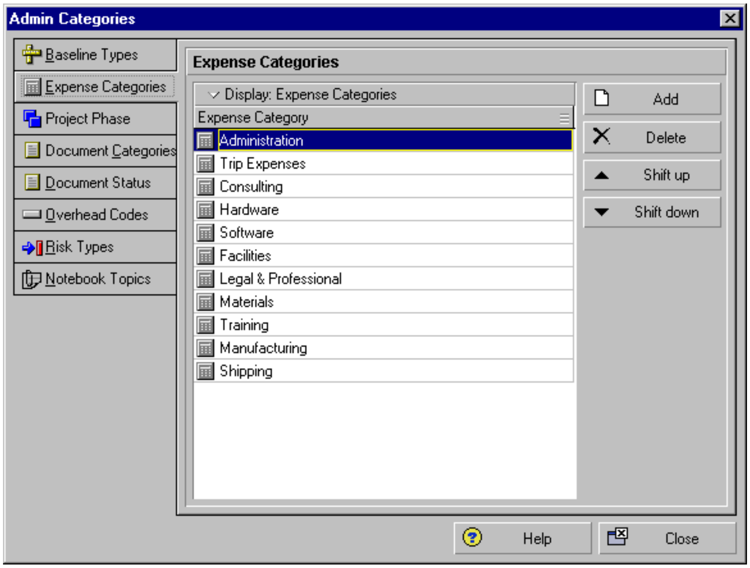
Baseline types Use the Baseline Types tab to create, edit, and delete baseline types. Baseline types enable you to categorize and standardize baselines across projects. To change the name of a baseline type, double-click it, then type a new name. P3e applies the change to all projects to which the baseline is assigned.



Click the Shift Up/Shift Down buttons to move the selected category/type to a higher/lower position in the display. This changes the order in which the categories/types are listed when you assign them in P3e. These buttons are available only when the list is not sorted alphabetically.

For more information about expenses, see the *Working with Cost Accounts and Project Expenses* chapter.

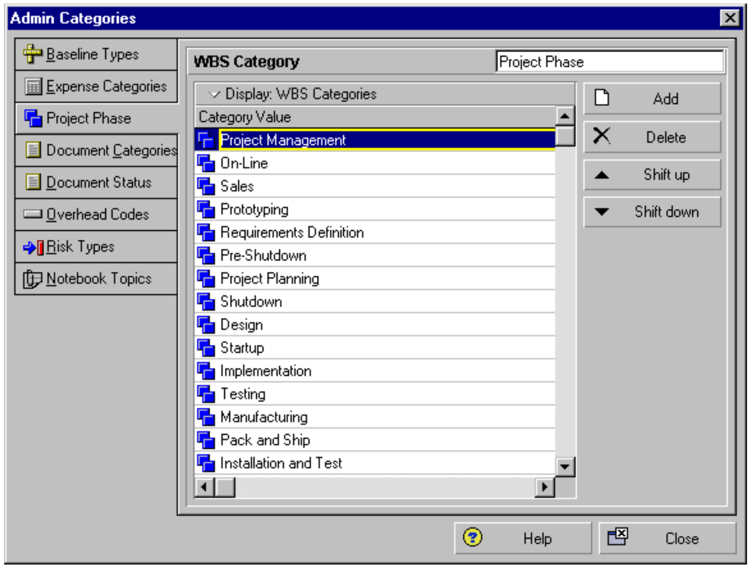
Expense categories Use the Expense Categories tab to create, edit, and delete expense categories. Expense categories can be used to categorize and standardize project expenses, and to organize and maintain your expense information. To change an expense category, double-click it, then type a new name. P3e applies the change to all projects to which the expense item is assigned.



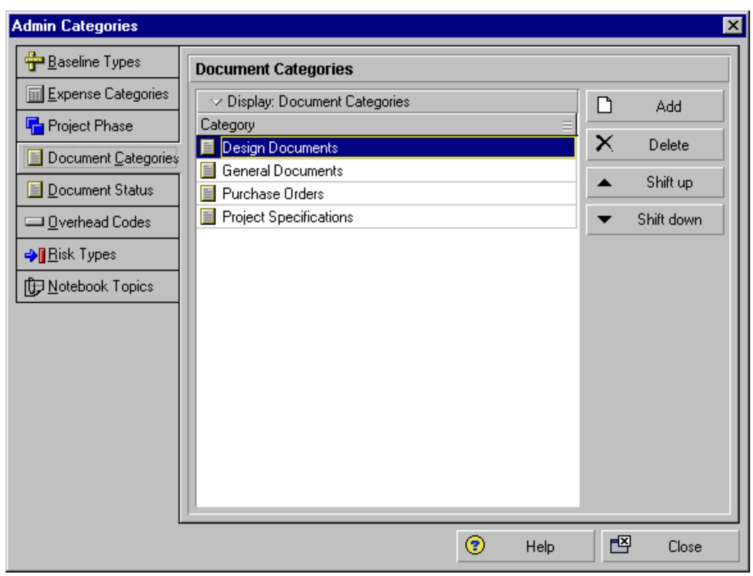
For more information about the WBS, see the *Reviewing Work Breakdown Structures* chapter.

WBS custom category Use the third tab on the Admin Categories dialog box to define a custom WBS category and category values. The tab displays the name you define. To change the category name, click in the field in the top right, then type a new name. Use this category to organize, filter, and report WBS information in all projects. To change a category value, double-click it, then type a new name. P3e applies the change to all projects to which the WBS item is assigned.

If you change the WBS category, P3e does not change any of the category's values or value assignments.

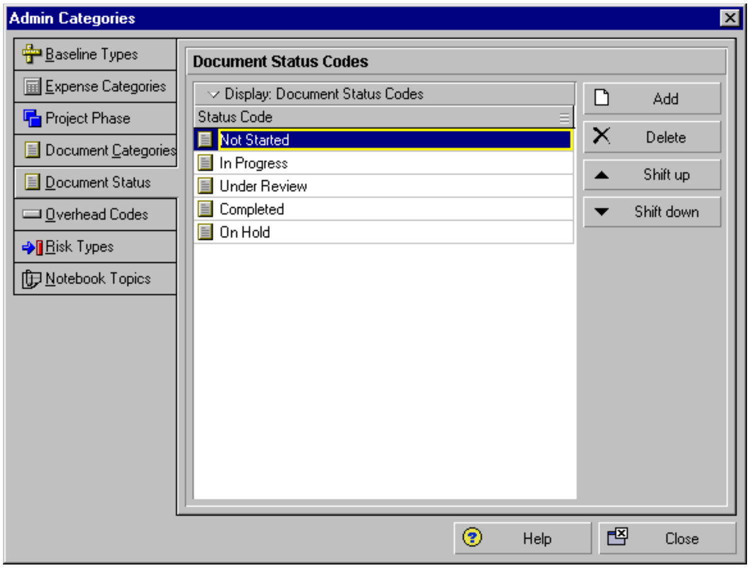


Document categories Reference documents usually refer to standards and guidelines. Use the Document Categories tab to set up categories for reference documents, then assign these categories to documents in the Reference Documents window and activities in the Ref Docs tab of Activities Details. To change a document category, double-click it, then type a new name. P3e applies the change to all projects to which the document is assigned.



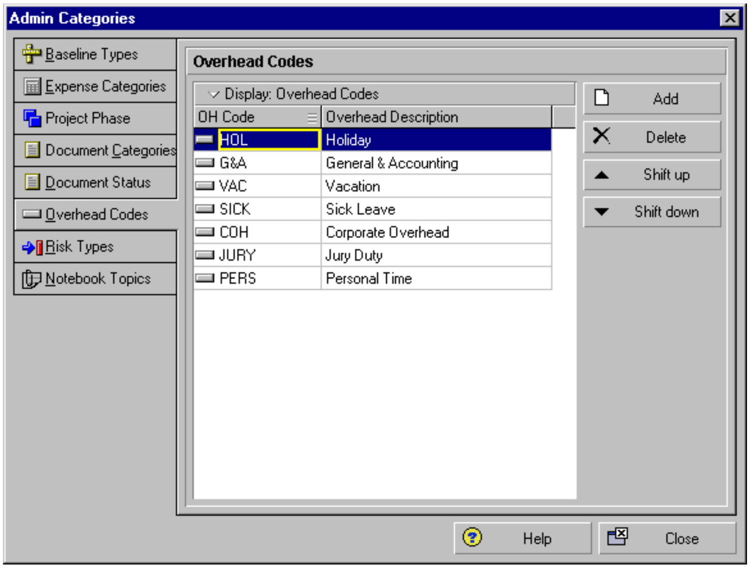
For more information about reference documents, see the *Maintaining a Project's Document Library* chapter.

Document status Use the Document Status tab to create, edit, and delete document status types. Status types identify the current status of reference documents within a project. Use them to determine which documents can be assigned to activities or WBS elements. To change a status type, double-click it, then type a new name. P3e applies the change to all projects to which the document is assigned.



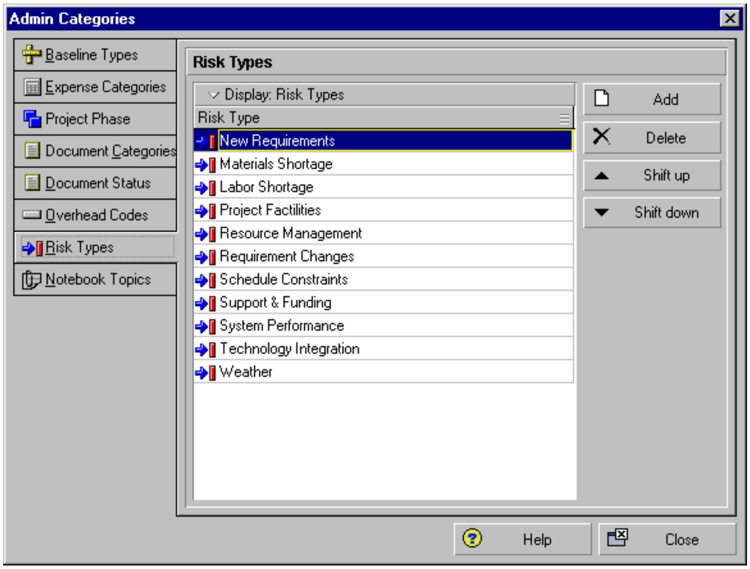
For more information about Progress Reporter, see the *Defining Resources and Roles* chapter.

Overhead codes Use the Overhead Codes tab to create, edit, and delete overhead activity codes for Progress Reporter users. Progress Reporter users add overhead activities to their timesheets to log timesheet hours that are not associated with project activities. To change a code, double-click it, then type a new name. P3e applies the change to all projects in which the code is assigned.



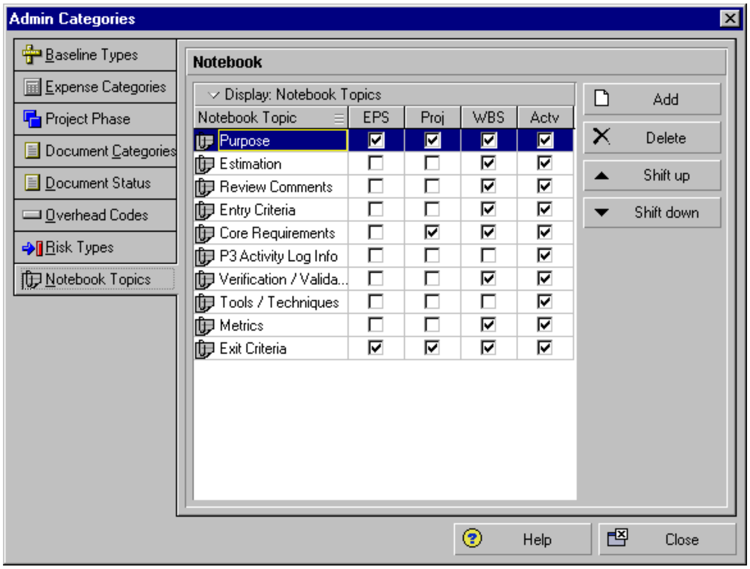
For more information about risks, see the *Managing Risks* chapter.

Risk types Use the Risk Types tab to create, edit, and delete risk types, or categories of possible risks. Risk types allow you to classify and standardize risks across projects. To change a risk type, double-click it, then type a new name. P3e applies the change to all projects in which the risk is assigned.



For more information about activity notes, see the *Working with Activities* chapter.

Notebook topics Use the Notebook Topics tab to create, edit, and delete notebook topics. Notebooks topics typically consist of instructions or descriptions for performing an activity. Examples include Purpose, Entry Criteria, Tools and Techniques, and Exit Criteria. To change a notebook topic, double-click it, then type a new name. P3e applies the change to all projects in which the notebook is assigned.



Setting Up User Preferences

In this chapter:

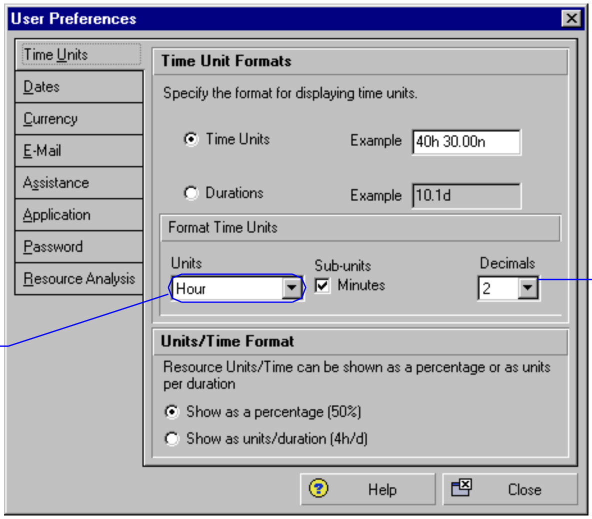
In P3e you can tailor certain options to fit your specific needs. For example, the format for displaying time units and dates, specify whether to show the currency symbol and decimal digits in cost displays, indicate how you want to transfer information to and from e-mail installations of P3e, set startup display preferences, and specify whether you want P3e to use the latest calculated summarized data or the most current data in activity/resource spreadsheets and profiles.

This chapter describes how to set these options on the User Preferences dialog box in P3e.

Formatting Time and Units

Time unit settings affect how P3e displays time and unit values in tracking layouts, activity durations, resource prices, availability, and work efforts. Choose Edit, User Preferences, then click the Time Units tab.

Select the time interval you want to use as the default unit for displaying time and calculation results in P3e.



If you select no decimals, durations do not include subunits; for example, 1.5d is displayed as 1d.

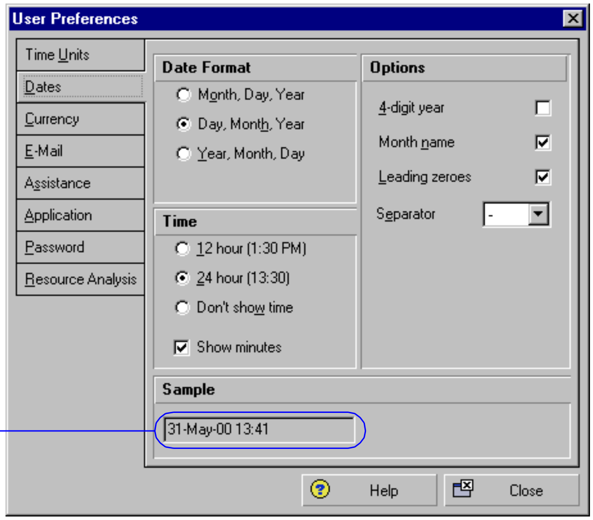
Set time unit options Choose Time Units to display units and subunits separately, for example, 8h 30.00n for eight hours and 30 minutes. Choose Durations to use decimals to represent subunits in duration displays, for example, 1.5d for one-and-one-half days.

Mark the Sub-Units checkbox to include the next smallest time interval for the Units selected; the field name changes accordingly. For example, if you select Hour in the Units field, the Sub-Units field displays Minutes. You can also select the number of decimal places you want to include in time unit displays throughout P3e.

In the Units/Time Format section, choose to show resource units per time as percentages or as units per duration. Your choice determines how rates are displayed. For example, 4h/d is the same as 50% of a day.

Formatting Dates and Time

Choose Edit, User Preferences, then click the Dates tab to specify how P3e displays dates and time.



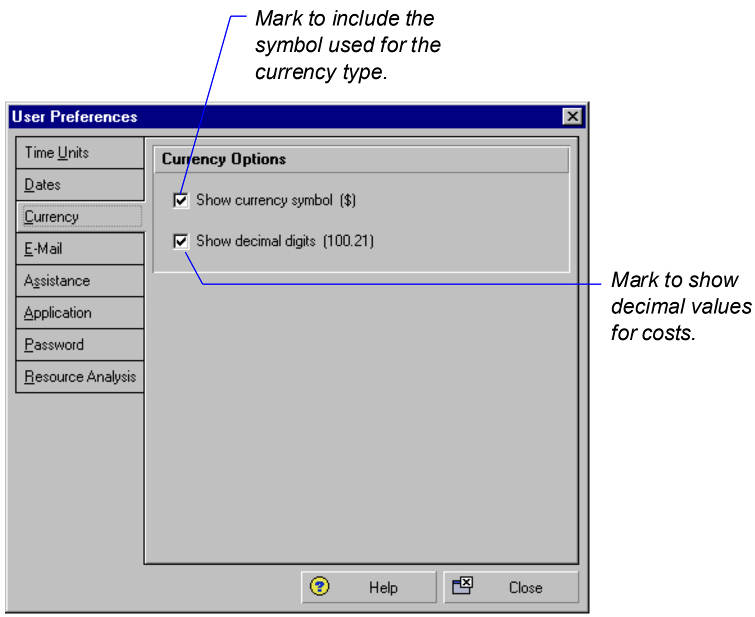
Displays an example of your format preferences

Specify date and time formats Choose the date format you want to use, then mark the applicable checkboxes in the Options area to indicate how the selected date format should appear. In the Separator field, select the character P3e uses to separate days, months, and years.

Use the Time section to choose the format for time displays. If you choose the 12- or 24-hour option, you can also mark the Show Minutes checkbox to include minutes in hourly displays.

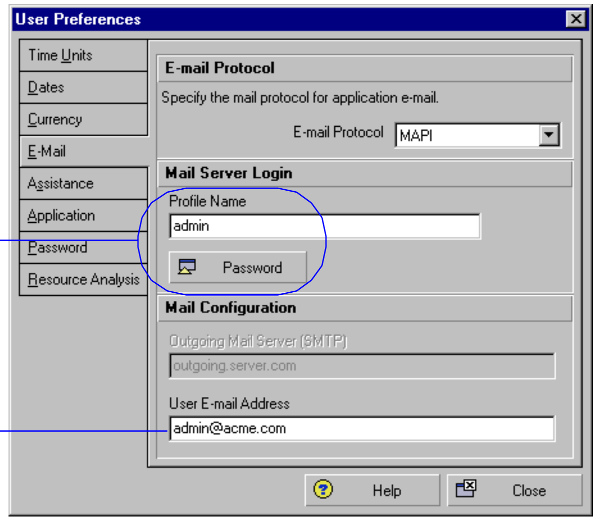
Showing/Hiding Currency and Decimals

Choose Edit, User Preferences, then click the Currency tab to specify whether you want to show or hide the currency symbol and/or decimal values in cost values. (The default currency symbol and number of decimal places is selected in the Currency tab of the Admin Preferences dialog box.)



Setting Mail Preferences

Choose Edit, User Preferences, then click the E-Mail tab to configure P3e to transfer information to and from e-mail installations of P3e.



Not needed for Internet mail

This is typically the project administrator's address.

If a Mail and Fax icon is not available in Control Panel on your workstation, double-click the Add/ Remove Programs icon, click the Windows NT Setup tab, and mark the Windows Messaging checkbox.

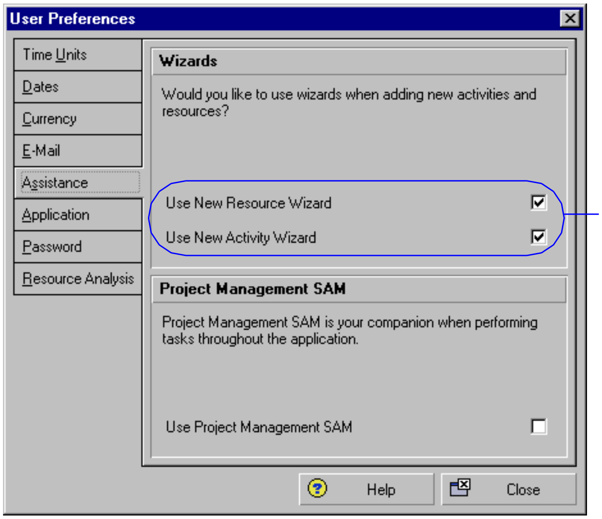
Configure mail settings P3e supports both MAPI (Messaging Application Interface) and SMTP (Internet) for sending issues to P3e users via e-mail. Select the applicable protocol for your mail system in the E-Mail Protocol field. When using SMTP, select Internet. If you are using MAPI as the protocol, type the profile name in the Mail Login Name/Profile Name field. The profile name is set in Control Panel in the Mail Settings dialog box (accessible from the Mail and Fax icon) on the workstation running P3e. Click Password to enter the password to the MAPI profile.

In the Outgoing Mail Server (SMTP) field, type either the fully qualified domain name of the Internet mail server or its IP address. In the User E-Mail Address field, type the Internet mail address for the P3e user from whom the mail will be sent. If you have a MAPI configuration, clear the Outgoing Mail Server (SMTP) field, and type the Microsoft Exchange e-mail address of the person sending the e-mail notification in the User E-Mail Address field.

Implementing Wizards and Project Management SAM

Choose Edit, User Preferences, then click the Assistance tab to enable use of wizards when adding resources and activities, and to include the SAM character in dialogs and wizards.

To discontinue a wizard's use, you can either clear the checkbox in this dialog box or mark the Do Not Show This Wizard Again checkbox in the wizard dialog box . To enable a wizard for future sessions, mark the applicable checkbox again in the Assistance tab of the User Preferences dialog box.



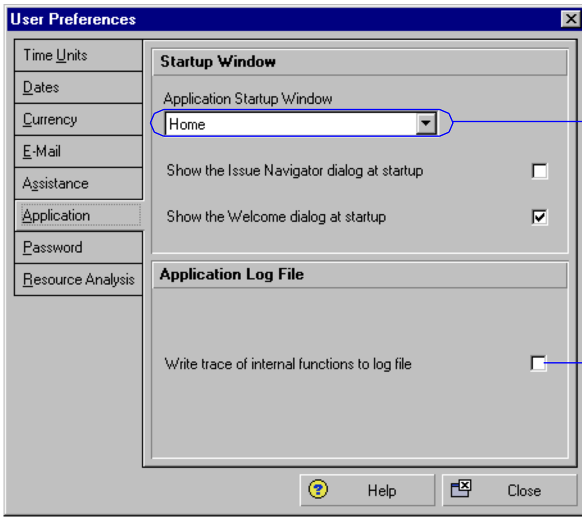
If you clear one or both checkboxes and add a new resource or activity, you will need to use the current layout to add the information.

Set P3e assistance options Wizards guide you through the steps necessary to complete a function. Once you feel comfortable adding resources and activities, you may not need to use them. Mark the check-boxes in the Wizards section to instruct P3e to automatically display the New Resource Wizard when you add a new resource, and the New Activity Wizard when you add a new activity.

Mark the Use Project Management SAM checkbox to display a pictorial character named SAM in wizards and dialog boxes in P3e. You can select the character you want to use for SAM by choosing Edit, Project Management Sam.

Setting Startup Options and Creating a Log of P3e Tasks

Choose Edit, User Preferences, then click the Application tab to establish the default window and dialog box displayed when you start P3e. You can also configure P3e to record the actions you perform in the application to a log file.



Make your selection based on the area of P3e in which you work most often; you can change this setting as your requirements change.

Mark to automatically create a log file called ERRORS.LOG each time you work in P3e.

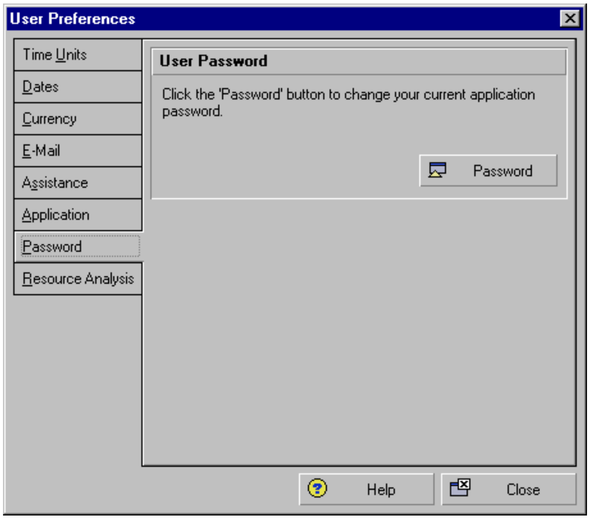
Set startup and log file options Select the window to display each time you start P3e. Select Home if your work varies each day; the Home workspace enables you to select the applicable window or layout for each session with P3e.

You can also indicate whether to display the Issue Navigator dialog box, which contains outstanding issues that P3e generates based on your preset thresholds, and the Welcome dialog box, which enables you to choose to create a new project, open an existing project, open the last project opened in your previous P3e session, or display global/enterprise data only.

Primavera recommends that you use the log file only with the assistance of Primavera Customer Support staff.

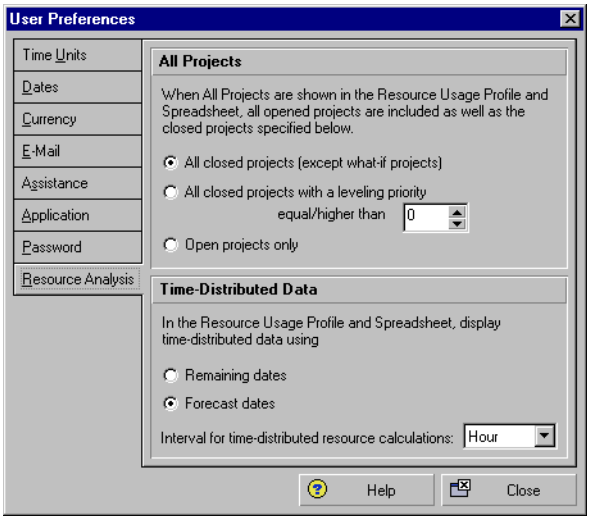
Changing Your Password

Choose Edit, User Preferences, then click the Password tab to change your current password for starting P3e. Click Password, then type a new password. Retype the new password to verify it, and click OK.



Setting Profile and Spreadsheet Data Options

Choose Edit, User Preferences, then click the Resource Analysis tab to choose the project data P3e uses when displaying and summarizing remaining units and costs in resource spreadsheets, profiles, and tracking layouts. You can also choose whether you want P3e to use remaining or forecast start and finish dates to display resource units and cost values for resource spreadsheets, profiles, and tracking layouts.



If you do not choose Show All Projects, P3e displays profile/spreadsheet and tracking data from open projects only, and the data are live rather than summarized.

Choose “All Projects” data and display dates for resource profile, spreadsheet, and tracking values If you choose Show All Projects from the Display Options bar in a resource profile or spreadsheet, you can specify whether to include data from open and closed projects, or only the projects currently open in P3e when calculating remaining units and costs. (Closed projects are any projects in the enterprise project structure (EPS) that are not currently open in P3e.)

- To include live data from all open projects and stored summary data from all closed projects (excluding those with a What-If status), choose All Closed Projects (Except What-If Projects).

Summarized data are available only when projects have been summarized in P3e. To summarize data, choose Tools, Summarize then select to summarize Open P3e Projects in the current view, All P3e Projects in the EPS (both open and closed), or Summary Only Projects (those projects for which the Contains Summarized Data Only checkbox is marked in the Project Details Settings tab).

- To include live data from all open projects and stored summary data from all closed projects with a specific leveling priority, choose Closed Projects with Leveling Priority Equal/Higher Than, and enter the leveling priority you want to use. (Specify the leveling priority per project in the General tab of the Projects window.) P3e uses this value to consider applicable external projects' (those not included in the current layout) when deducting from resource availability immediately during leveling.
- To not include resource data from external (closed) projects in the remaining units and cost values for resource profiles/spreadsheets and tracking layouts, choose Open Projects Only.

In the Time-Distributed section of the Resource Analysis tab, choose a starting point for calculating remaining units and costs for resource profiles and spreadsheet displays and in tracking layouts. To focus on the current remaining estimate, choose Remaining Dates. To focus on values calculated from a forecast date set by moving the project bar forward to a "what-if date" in Portfolio Analyst, choose Forecast Dates. Also select the interval at which live resource and cost calculations are performed for resource profiles and spreadsheet displays and in tracking layouts—hour, day, week, or month. Profiles, spreadsheets, and layouts are only affected if their timescale interval is set lower than the interval set in the Interval for Time-Distributed Resource Calculations field. This interval is also used by P3e to summarize all costs assigned to resources, and to summarize resource units and costs assigned to activities.

Part 2

Structuring Projects

In this part:

This part describes how to start planning and creating projects. The first four chapters explain how to structure and add projects to the hierarchy; establish the managers directly responsible for projects and the users associated with them throughout the enterprise; set up project resources and roles; and use the work breakdown structure (WBS) to plan and manage project information. Subsequent chapters explain how to set up project budgets, funding sources, and spending plans; track and analyze variance as projects progress; and define project codes and assign values to project information so you can organize it in different ways in the enterprise. Once your project structures are set up, you can define the calendars that determine when work can and cannot occur.

Setting Up the Enterprise Project Structure

In this chapter

This chapter describes how to define the enterprise project structure (EPS) that will be used to organize and manage the projects in your organization. In addition, it explains how develop, create, and add projects to the EPS, and define project attributes.

Enterprise Project Structure Overview

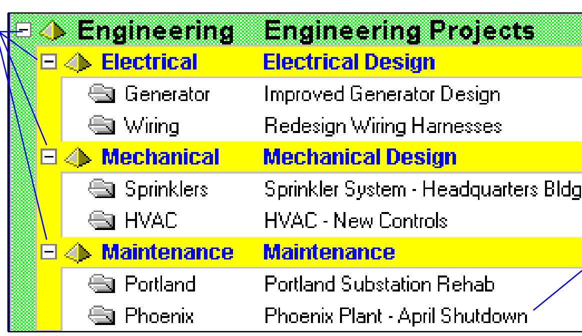
Typically, users in an enterprise will have access to a large database that contains all the projects and related information for their company. The information this database contains must be structured in a way that allows individuals to access the project data they need, quickly and accurately. In addition, users must be able to review project data at the level appropriate for their role in the enterprise and the specific questions they need to answer.

In P3e, your database of projects is arranged in a hierarchy called the enterprise project structure (EPS). The EPS can be subdivided into as many levels or nodes as needed to parallel work in the enterprise. Nodes at the highest, or root, level might represent divisions within your company, project phases, site locations, or other major groupings that meet the needs of your organization, while projects always represent the lowest level of the hierarchy. Every project in the enterprise must be included in an EPS node.

Use the Admin Preferences, Data Limits tab to specify the maximum number of EPS levels you can define. P3e allows as many as 50 combined EPS/WBS levels.

The number of EPS levels and their structure depend on the scope of your projects and how you want to summarize data. For example, you may want to define increasingly lower levels of EPS nodes, similar to an outline, to represent broad areas of work that expand into more detailed projects. In the following example, the Engineering group EPS node includes a lower-level node called Electrical Design. This node contains the projects that constitute electrical engineering, such as Improved Generator Design and Redesign Wiring Harnesses. You can specify as many projects as necessary to complete the required work and fulfill the scope set forth by operations executives and program managers in your organization.

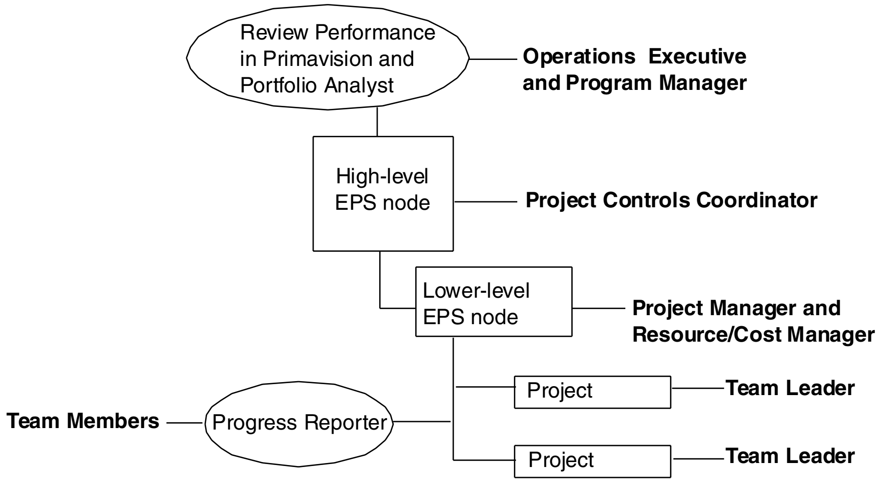
This EPS shows the Engineering Projects node, which is further divided into nodes that contain projects corresponding to the types of engineering.



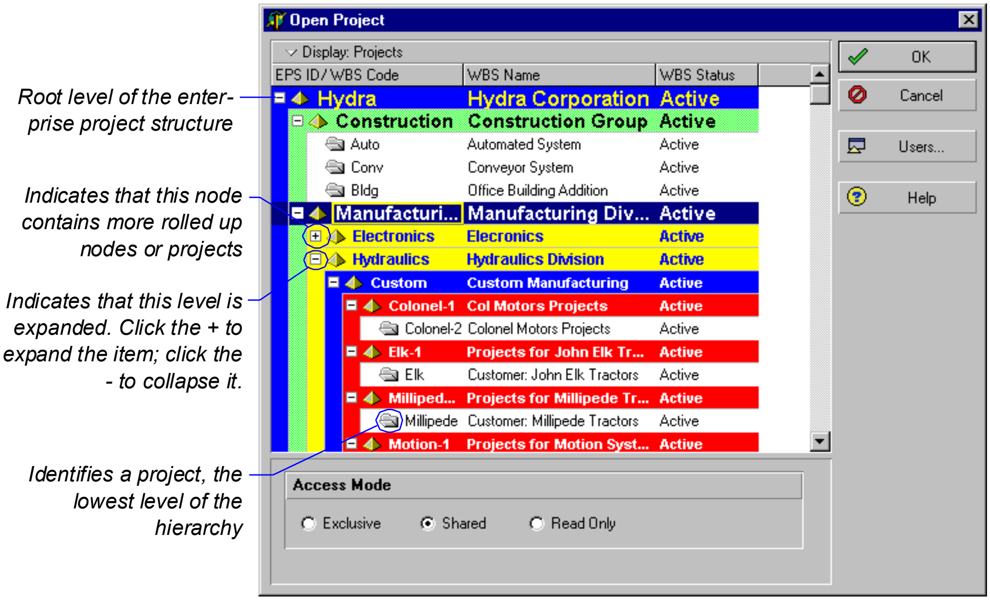
A project is the lowest level in the EPS.

Multiple levels enable you to manage projects separately while retaining the ability to roll up and summarize data to higher levels. For example, you can summarize information up to each node in the EPS. Conversely, top-down budgeting can be performed from higher-level EPS nodes down through their lower-level projects for cost control.

Ideally, one person or group controls the EPS across the enterprise. The project controls coordinator creates the hierarchical structure that identifies the company-wide projects. The coordinator works with the project manager in each area of the enterprise to define basic project information for each group and to develop standards before any projects are added. The following diagram is a simplified representation of responsibilities and projects within a hierarchy.



Move around in the EPS When you first start P3e, click Open Existing on the Welcome dialog box, or choose File, Open, from within P3e. EPS nodes that contain other nodes and projects are identified by a pyramid icon. A + symbol indicates that more nodes or projects are rolled up beneath the selected node. Click + or double-click the node to display additional levels in the hierarchy.

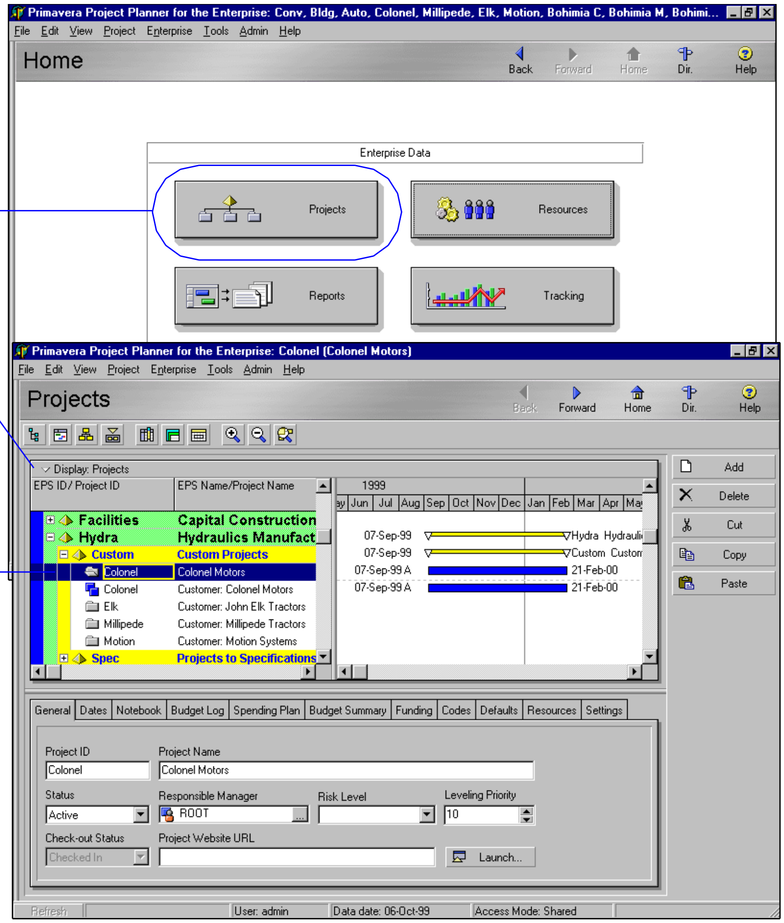


Select the EPS node or project you want to open in P3e, then click OK. To view the EPS structure, click Projects from the Home workspace.

Click Projects to display the enterprise project structure.

You can group and sort by any defined project code; click the Display Options bar, then choose Group and Sort to select a code.

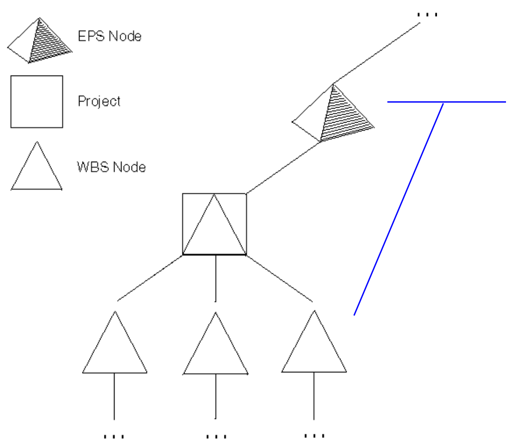
The Colonel Motors project was opened from the Open Project dialog box; this project is located under the Custom Projects node in the EPS.



If you converted projects from an earlier version of Primavera Project Planner (P3) or SureTrak Project Manager, P3e displays the project groups and member projects in the EPS as a two-level hierarchy showing the project group as the EPS node, and the member projects as projects of the node.

Other project structures P3e uses a similar structure for other project data, such as the organizational breakdown structure (OBS), the work breakdown structure (WBS), resources, and project codes. These data correspond directly with the various levels of the EPS to denote logical and meaningful divisions in the enterprise.

Work breakdown structure Each project has its own WBS, which shows the hierarchy of products and services produced during and by a project. The summary rollup of the highest WBS level is equal to that of the project level in the EPS. This effectively extends the EPS hierarchy down to the activity level in the EPS, as shown in the following example.

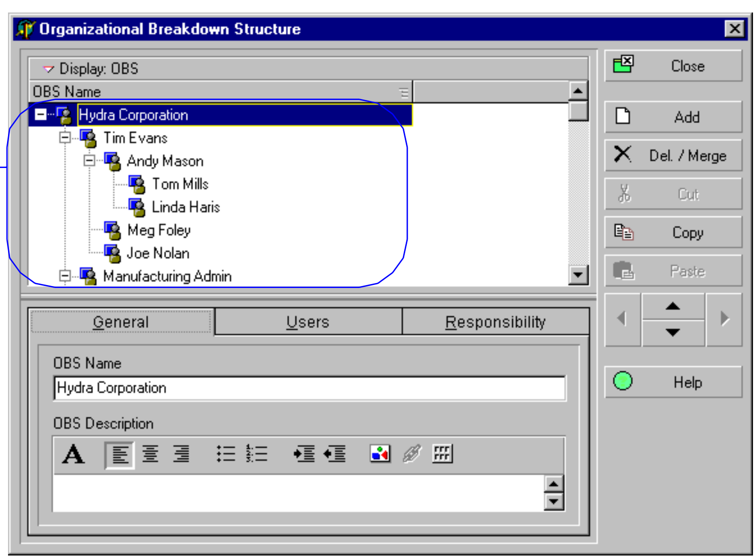


Both EPS and WBS nodes can be assigned dates and budgets—essential elements for top-down planning.

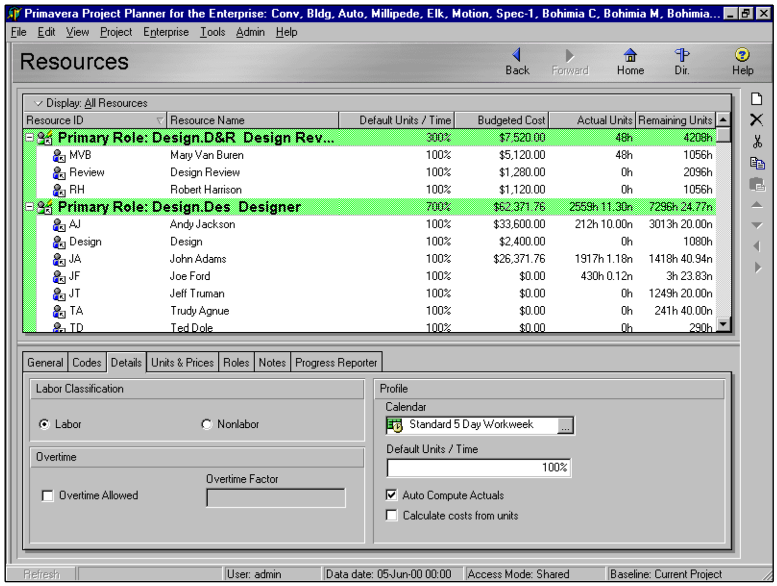
For more information about the OBS hierarchy, see the *Setting Up the Organizational Breakdown Structure* chapter.

Organizational breakdown structure User access and privileges to nodes within the EPS hierarchy are implemented through a global OBS that represents the management responsible for the projects in the EPS. Each manager in the OBS is associated with his or her area of the EPS, either by node or by project, and the WBS of the particular level of the hierarchy.

Each level of the OBS is associated with a level of the EPS hierarchy, whether it be a node or a project.

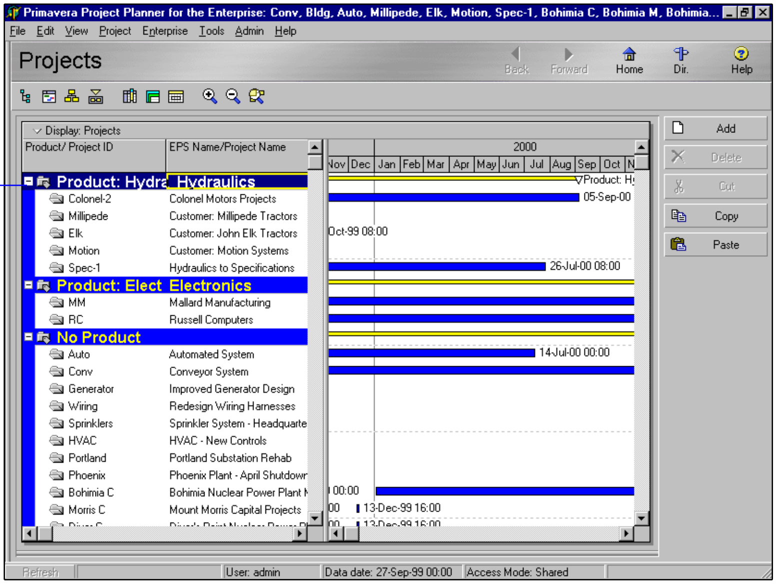


Resources Resources are the personnel and equipment that perform the work across all projects. In P3e, you can set up a resource hierarchy that reflects your organization's resource structure and supports the assignment of resources to activities.



For more information about the resource hierarchy, see the *Defining Resources and Roles* chapter.

Project codes Project codes are another way to group and sort projects in the enterprise. When you have many projects in the hierarchy, codes enable consolidation and/or filtering of potentially vast amounts of information located in different areas of the enterprise.



When you open a high-level EPS node, you can organize the layout by project code to quickly see only projects assigned to that code.

For more information about summarizing data, see the *Summarizing Projects* chapter.

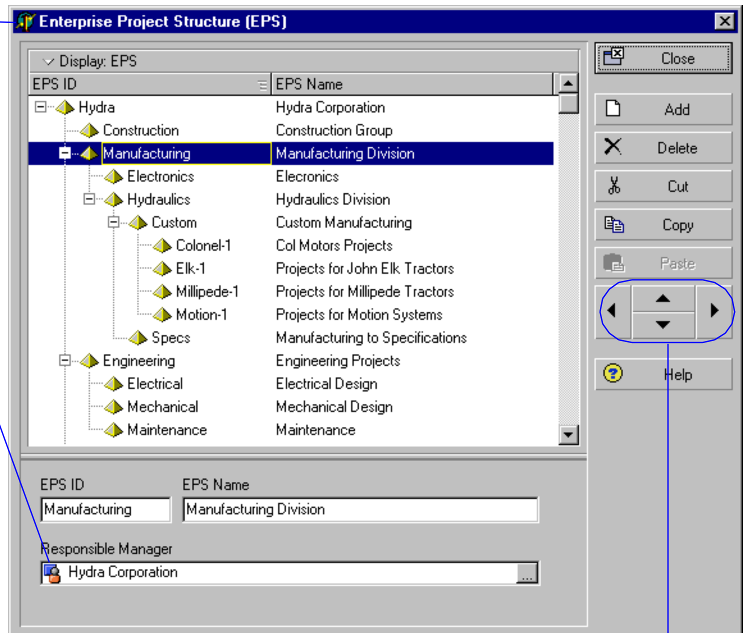
Summarizing Projects

You can view summary data for all projects in the enterprise in the Projects window in P3e and in Portfolio Analyst. P3e enables you to summarize data at regularly scheduled intervals or on demand, using the Tools, Summarize command. Summarize data to obtain a broad overview of project information and to display project data more quickly.

Setting Up the Enterprise Project Structure

To establish the EPS nodes that will contain your enterprise projects, choose Enterprise, Enterprise Project Structure.

This dialog box presents a high-level picture of your EPS, enabling you to set up appropriate divisions of information in the enterprise.



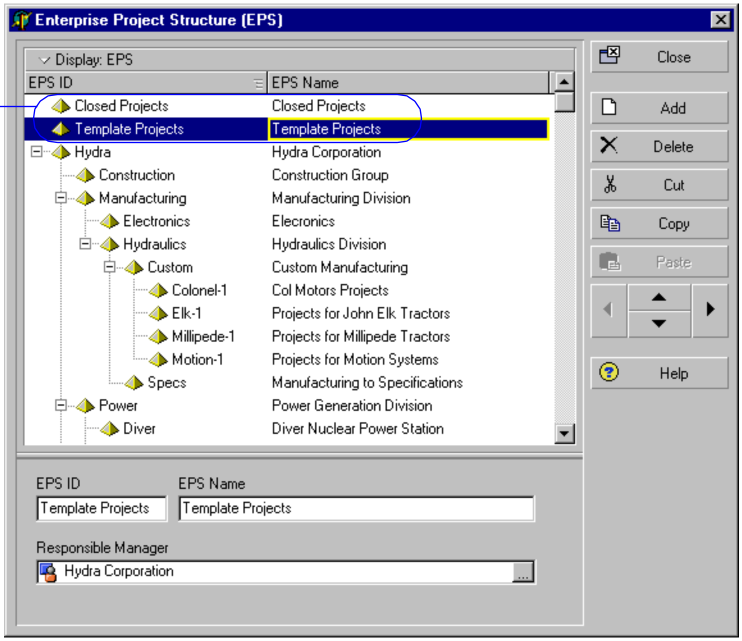
You must specify a responsible manager for each node in the EPS to enable security rights and privileges; P3e uses the OBS root as the default for all nodes if you don't provide one.

Click to move nodes up/down or indent/outdent.

Add a node to the EPS Select the node under which you want to add a node. The new node will be placed below the selected node in the hierarchy. Click Add in the Enterprise Project Structure (EPS) dialog box. Type a unique ID and name for the node directly in the column cells, or in the EPS ID and EPS Name fields. Accept the responsible manager shown, or click the Browse button in the field to select a different OBS element for the node. Use the arrow keys to indent/outdent a node to denote its placement in the EPS, and to move a node up/down in the hierarchy. Click Close.

Add multiple root nodes You can distinguish different branches of the EPS hierarchy by including more than one root node. For example, you might want to separate current projects from completed projects or from template projects that you use as the basis for new projects. Add a root EPS node the same way you add an EPS node, but outdent the root to the left-most position in the hierarchy.

Add root nodes to separate projects with an Inactive status or to distinguish projects used as templates.



For more information about security profiles, see the *Primavera Enterprise Administrator's Guide*.

Build the hierarchy After you set up an EPS, you can define additional data about each EPS node, such as anticipated dates, budgets, and spending plans. Use the Project Details to specify this information, as described later in this chapter. Or, you can begin adding projects under the applicable nodes in the structure if you have access rights to these functions in P3e. Access rights are set by your network or database administrator.

Adding a New Project to the Enterprise Project Structure

A project is a set of activities and their associated information that constitutes a plan for creating a product or service. A project has a start and finish date, work breakdown structure (WBS), and any number of activities, relationships, baselines, expenses, risks, issues, thresholds, and reference documents. In P3e, a project may also have its own Web site.

While resources typically work on several projects, each project has its own resource assignments. Similarly, while calendars, reports, and activity codes may span all projects, they may also be project specific.

Determine your requirements for adding a new project to the hierarchy. As a project manager who manages one or more higher-level projects in the enterprise, you'll probably want to add an EPS node that encompasses these projects. If you are a team leader, you'll probably want to add an individual project that incorporates the tasks your group needs to perform to complete the higher-level EPS node. You will create this individual project below one of the EPS nodes previously established by your project manager.

Use the Projects window to add a project to the EPS hierarchy. Define general information such as the project's ID and name, planned start and must finish by dates, and the responsible manager.

Add a project to the EPS Choose Enterprise, Projects, or click Projects on the Home workspace to open the Projects window. Select the EPS node to which you want to add a project. (If you have not yet created any EPS nodes, select the root EPS node created for you when you installed P3e.) You can add projects only to the lowest level node in any branch of the EPS.

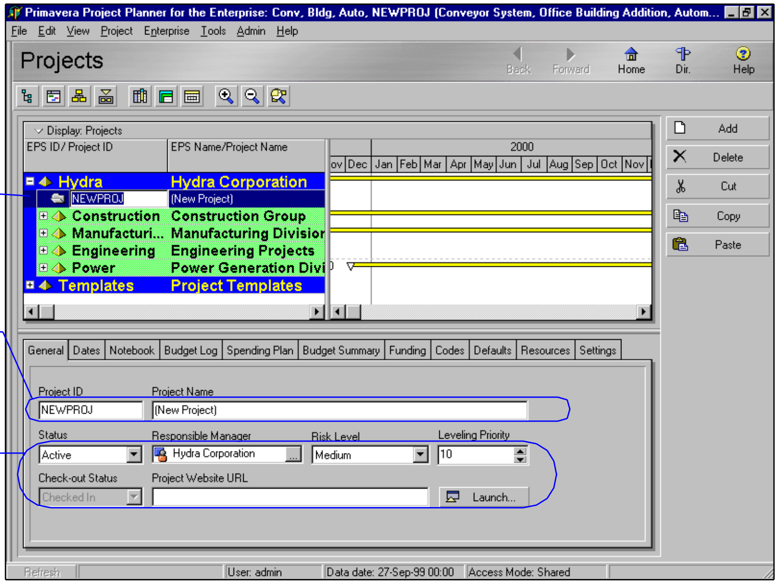
Click Add. The Create a New Project Wizard guides you through the steps required to add a project, including selecting the node in which to place the project in the EPS, naming the project, and identifying the responsible manager for the project. If you would rather add the project without using the wizard, click Cancel in the Create a New Project Wizard.

You cannot add projects below existing projects.

The root node was selected as the EPS node in which to place the new project.

Identify the new project using the General tab in Project Details.

Use the default information provided, or change it to accommodate the project requirements.



To define additional project information, display Project Details at the bottom of your layout (click the Display Options bar and choose Details), then refer to the *Defining EPS Details* section of this chapter.

For more information about the Create Project tool in Primavision, see the *Creating Projects* topic in the *Primavision* online Help.

Using Create Project in Primavision to Create Smaller Projects

You can use the Create Project tool in Primavision, the Web-based application available in the Primavera Enterprise suite, to create a small project that fits into the overall EPS, but that does not have to be managed within P3e. You can also use the Create Project tool to add a new project quickly, and then fill in the necessary details in P3e. The Create Project function enables you to add projects to the EPS, set start and finish dates, add activities, assign team members, create weighted steps and use them for statusing, assign budget information, and mark the project complete.

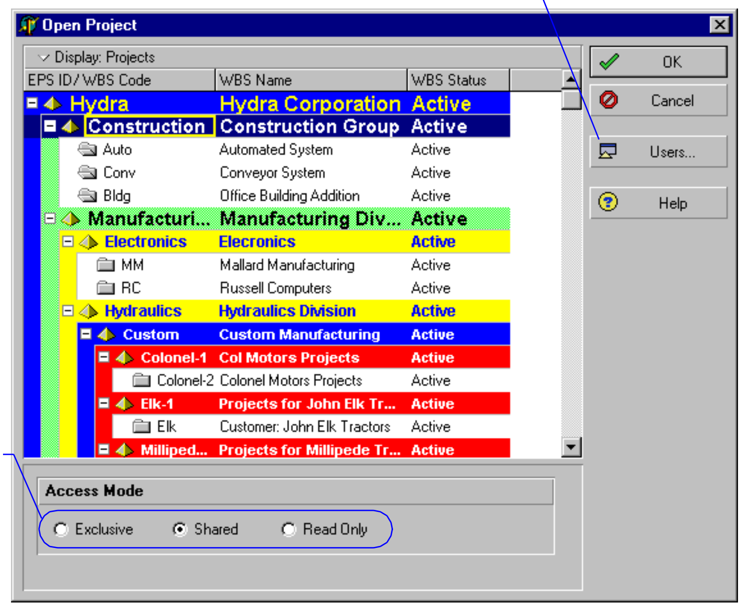
For more information about importing and converting projects, see the *Primavera Enterprise Administrator's Guide.*

Import projects You may want to build your EPS using projects previously created in an earlier version of P3 or in Microsoft Project. P3e's Import Wizard prompts you to specify the information to be imported and where the project should be placed in the current EPS hierarchy.

Working with the Enterprise Project Structure

Open an EPS node in P3e to open all the projects that compose it or open projects individually. You can also select nonconsecutive projects to see their combined status, resources, or costs. Choose File, Open, select the node(s) or project(s) you want to open, then click OK.

Click to view a list of users who currently have the selected project open.



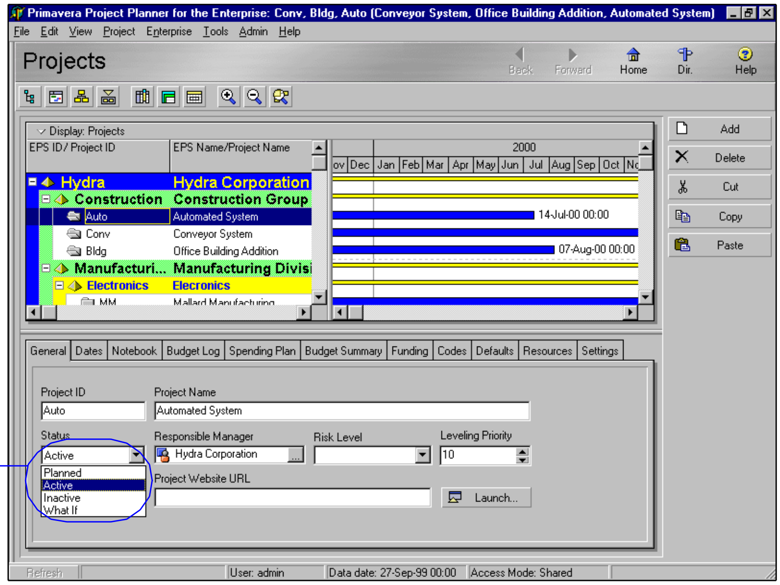
Depending on your security profile or the way in which other users have opened the project, one or more of these options may not be available.

Only one user at a time can have Exclusive access to a project.

Use status for filtering projects in the EPS You can change an open (Active) project to closed (Inactive) when the project is completed. You can also assign a What-If status to a copied project that you want to use for analysis. Project status can be used to organize and summarize information in P3e, and to filter projects.

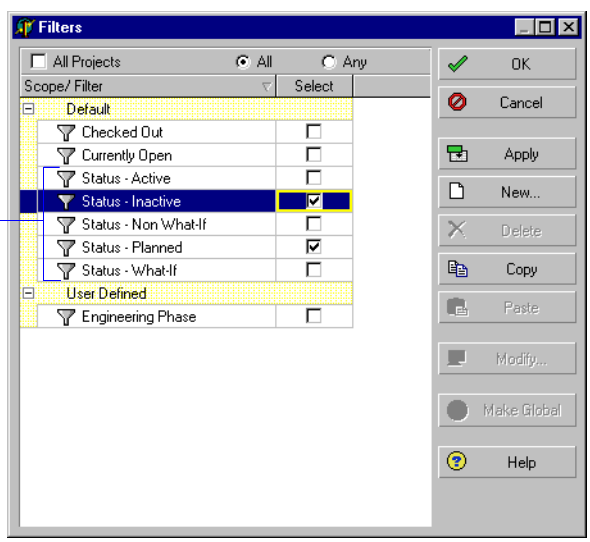
Choose File, Open, select the EPS node or project whose status you want to change, click OK, then click Projects in the Home workspace.

In the General tab, select the project's status.



To view only those projects with a specific status, choose View, Filter By, Status, then choose the status you want to use. You can also choose View, Filter By, Customize. In the Filters dialog box, mark the applicable Select checkboxes for the statuses of the projects you want to see.

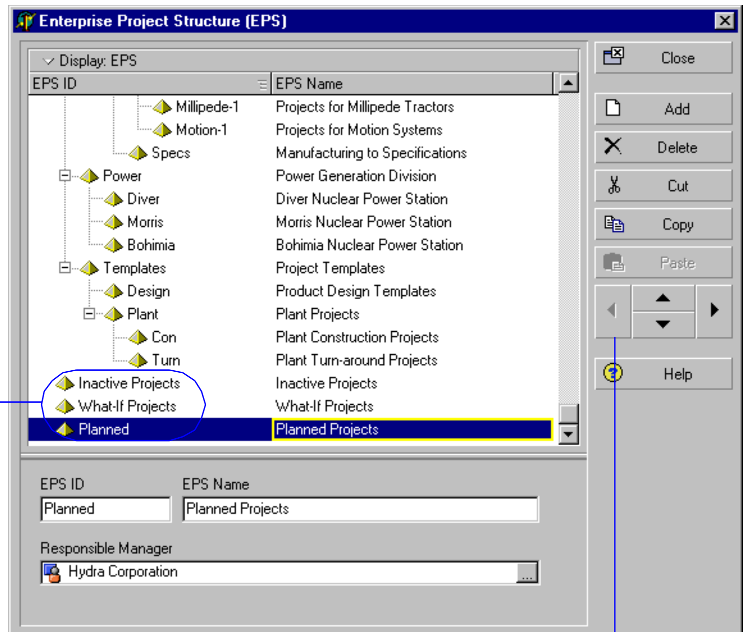
Status filters



Using Root Nodes to Denote Project Status

Another way to distinguish projects with statuses other than Active is to place them under separate root nodes in the EPS. The projects remain part of the hierarchy, but they are not considered when you budget, schedule, and level your active projects. Choose Enterprise, Enterprise Project Structure, to set up root nodes as placeholders within the EPS. You can then drag and drop projects to these root nodes when status changes.

You may want to place the status root nodes at the bottom of the EPS to keep them separate from the rest of the hierarchy.

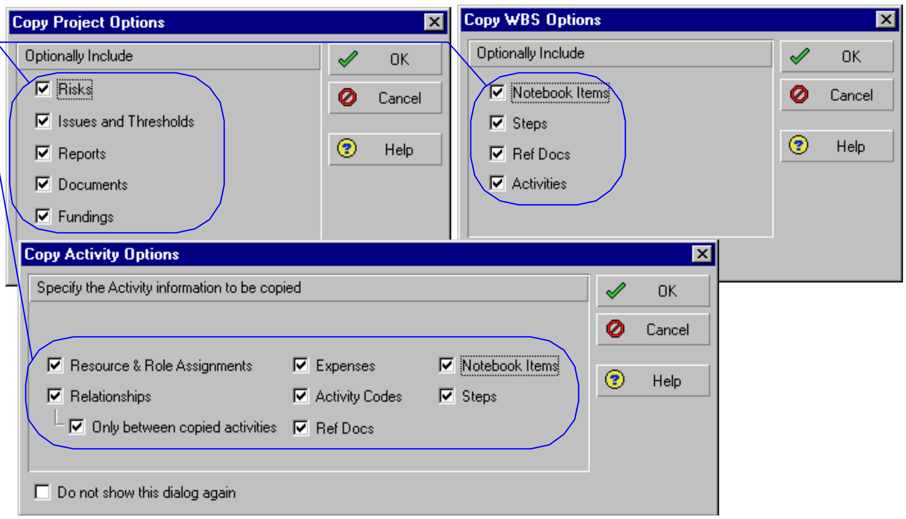


Click to move a selected node to the left-most position and designate it as a root node.

Copy an EPS node or project You can copy an existing node or project to use as a template for a new one. Rename the node or project after you copy it, then make the necessary changes to it.

When you open the Projects window, include the node/project you want to copy as well as the node to which you want to copy it. Select the project you want to copy, then click Copy from the command bar. Select the node to which you want to copy the node or project, then click Paste in the command bar. When you copy a project to another location in the EPS, you can also choose to copy the links to the WBS, documents, OBS, and other related elements. Mark the applicable checkbox(es) in the dialog boxes that are displayed when you click Paste. Click OK in each dialog box to proceed with the copy.

Mark the checkboxes for the elements you want to copy.



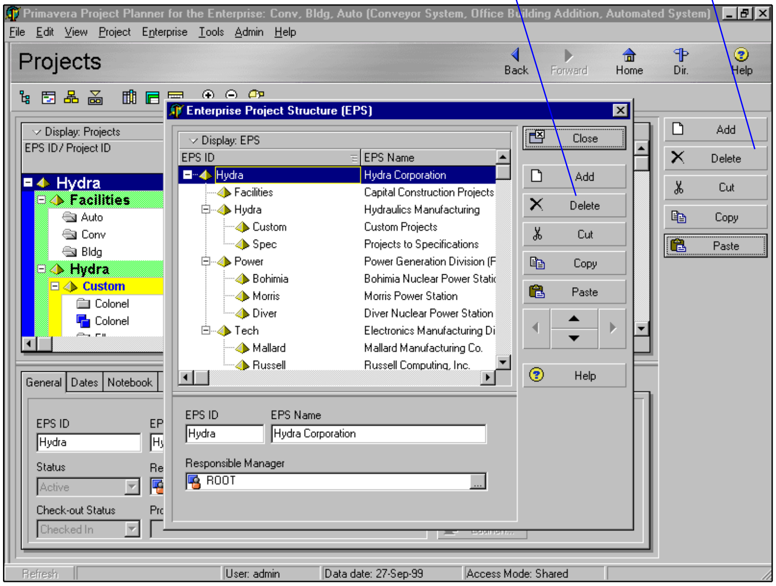
You can only delete projects that are opened in Exclusive mode.

Delete an EPS node or project When you delete a node, all projects in that branch of the hierarchy will also be removed. If you don't want to delete these projects, you must copy and paste them to another area of the hierarchy before you delete the higher-level EPS node.

To delete an EPS node, choose Enterprise, Enterprise Project Structure. Select the EPS node you want to delete, then click Delete. Confirm that you want to delete the selected node by clicking Yes. To delete a project, open the Projects or WBS window with that project included. Select the project, then click Delete. Confirm that you want to delete the selected project by clicking Yes.

Click to delete the selected project.

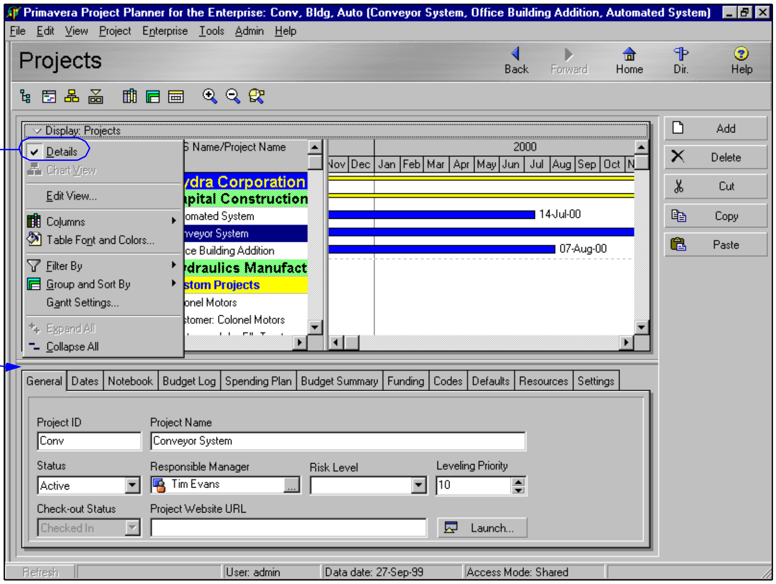
Click to delete the selected node.



Defining EPS Details

Define project details and defaults used throughout a project using the Project Details tabs in the bottom portion of the Projects window. You can also define information specific to the EPS nodes in your hierarchy. To display Project Details, click the Display Options bar, then choose Details (the checkmark should be marked).

Make sure the Project Details are displayed so you can define properties.



To include/exclude tabs, right-click in the Details area, and choose Customize Project Details.

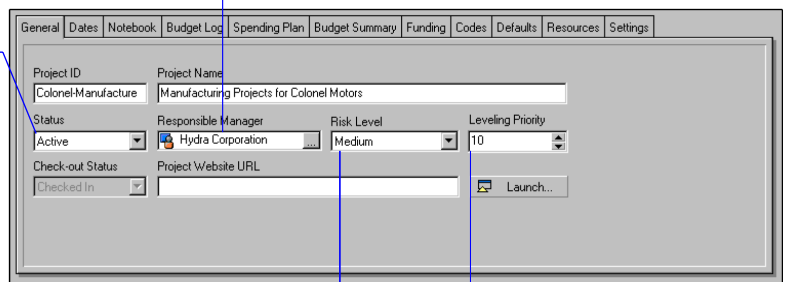
Open each tab to view and edit that type of information for the selected node or project.

For details about the Budget Log, Spending Plan, Budget Summary, and Funding tabs, see the *Defining Budgets* chapter.

General information The General tab enables you to view and edit general information about the selected node or project. This information includes the ID, name, responsible manager, leveling priority, and risk level. You can also view or edit the project's Web site address, if applicable.

The node's/project's assigned organizational breakdown structure (OBS) element. The Responsible Manager is a mandatory assignment for each level of the EPS.

Use status to identify active (Active) or closed (Inactive) projects. You can also select What-If status for analysis before establishing a more permanent project schedule, or Planned status for use during the project planning phase.



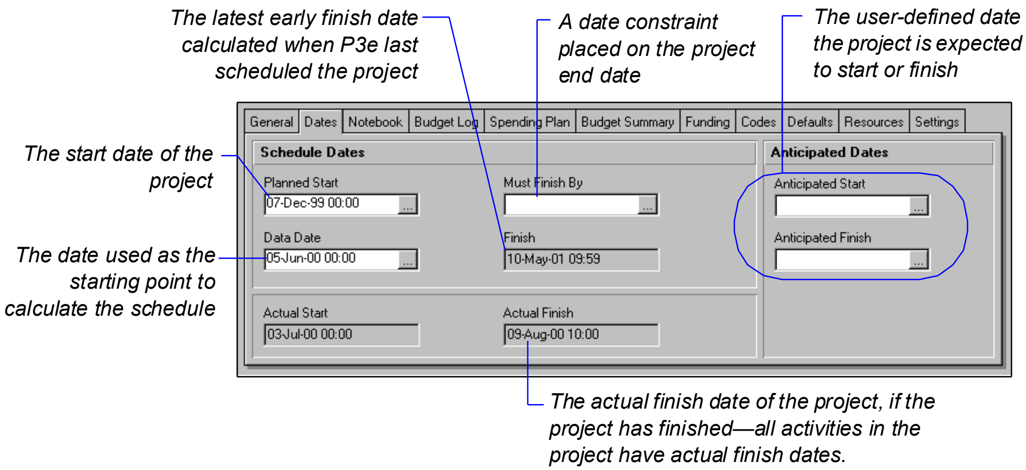
The overall risk in performing the node/project. Use the risk level to organize, filter, and report project information.

P3e uses this value to consider applicable external projects' (those not included in the current window) when deducting from resource availability immediately during leveling.

Leveling Priority

You must have the Consider Assignments in Other Projects with Priority Equal/Higher checkbox in the Level Resources dialog box marked, and a priority value indicated, for P3e to select the appropriate external project(s) during leveling. For those projects currently open in the window, P3e uses the priority level as a tie breaker during leveling, if you have included Project Priority under Leveling Priorities in the Level Resources dialog box. You can enter a value from 1 to 100, with 1 being the highest priority.

Dates The Dates tab enables you to edit scheduling information for the selected project. This information includes the current data date, planned start date, and the scheduled finish date. If you have an EPS node selected, you can also enter the dates you anticipate the node will start and finish.

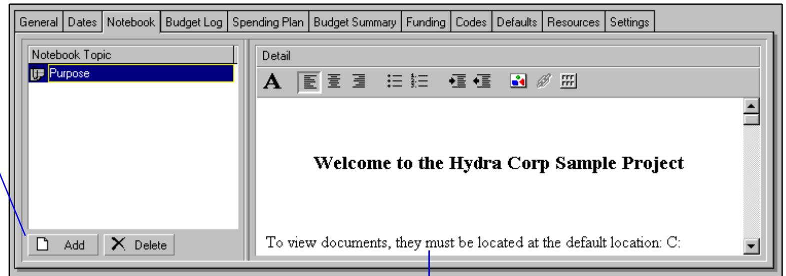


Anticipated Dates

Anticipated start and finish dates are used during the project planning stage, and can be set at the EPS, project, or WBS level. If the selected project has no activities, or the activities have not started, the Start date or Finish date (in columns) is set equal to the Anticipated Start or Anticipated Finish. Once the project's activities are scheduled, the Anticipated Start/Finish is overwritten. Click the Browse button to select a new date.

Notebooks The Notebook tab enables you to assign notebook topics and details to the selected node or project. These topics are defined in the Notebook Topics tab of the Admin Categories dialog box.

Click to add a topic, select a topic in the Assign Notebook Topic dialog box, then click Assign.

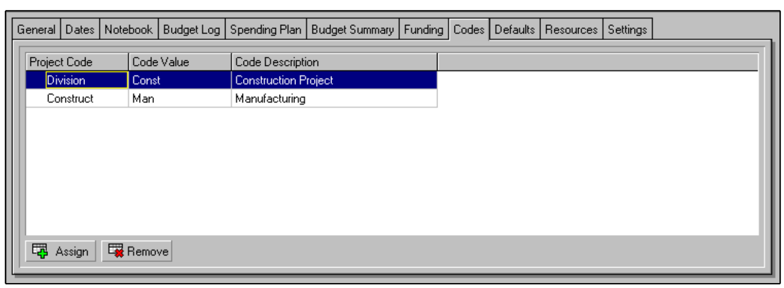


Click in this area to type a description of the selected topic.

For free-form, user-defined details throughout P3e, you can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyper-links.

Project codes The Codes tab enables you to assign project code values to the selected project. You must first add project codes and values (choose Enterprise, Project Codes).

To sort the display, click the applicable column label.

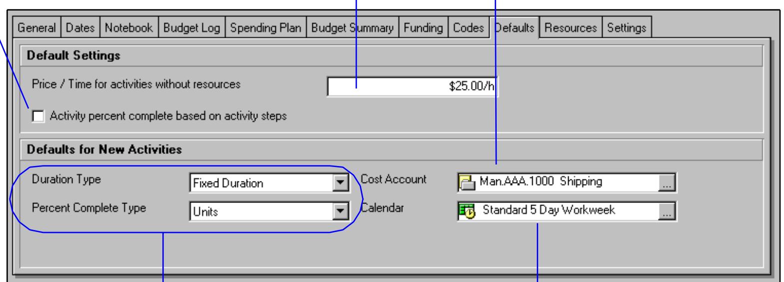


Default values The Defaults tab enables you to specify the default settings for the selected project. This information includes the default cost account for resource assignments to activities, the default cost of activities without resources, and the default activity calendar, duration type, and percent complete type.

This setting is used to calculate the cost for activities that have labor/nonlabor units with no assigned resources or resources that do not have prices.

The default cost account for resource assignments to activities and project expenses in the project

Mark to base percent complete on activity steps when using the physical percent complete type.

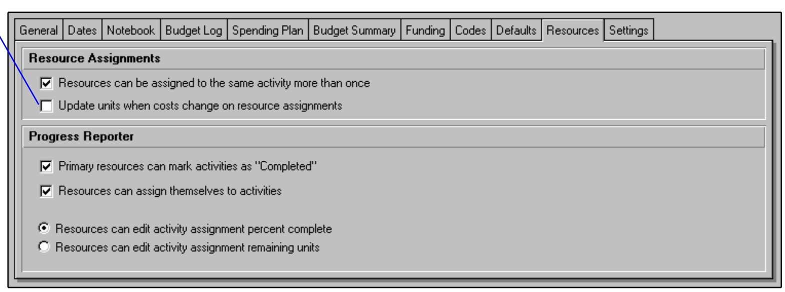


The default duration and percent complete types for activities in the project. Changing these settings does not affect existing activities.

If you change the default calendar, P3e applies the default calendar only to new activities.

Resources The Resources tab enables you to specify resource permissions for Progress Reporter for the selected project. Permissions include whether resources can assign themselves to activities and whether resources enter remaining units or activity completion percentages for their assigned activities.

Mark for P3e to recalculate units when costs are updated for the assignment. Any cost change will trigger the recalculation, such as modifying the remaining cost for any activities in the project.

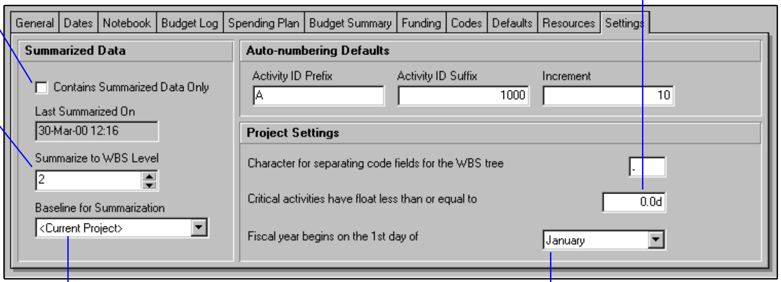


Settings The Settings tab enables you to view and specify summarization information and project-level settings for the selected project.

The maximum float time for activities in the project before they are marked critical. You can type a new number and timeperiod.

Mark to instruct P3e to maintain only summarized data for the project.

Maximum WBS level the project data can be stored to in the database for summarization. This summarize level impacts the data shown in Portfolio Analyst when you choose to show summary, rather than “live,” data.



Project used for summarization. Current Project is the first item in the list followed by all other defined projects.

The month the project’s fiscal year begins. You can select a new month.

Marking the Contains Summarized Data Only checkbox enables an organization to maintain summary-level data for projects managed externally from the P3e database.

Auto-Numbering Activity IDs

When a new activity is created, the activity ID is automatically generated using auto-numbering. Activity ID auto-numbering concatenates the prefix and the suffix, with the suffix incremented to make the ID unique. For example, “A” (prefix), “1000” (suffix), “10” (increment) yields activity IDs of “A1010,” “A1020,” “A1030,” and so on. If you change the activity ID prefix, suffix, or increment, P3e only applies the change to new activities, not existing activities.

Setting Up the Organizational Breakdown Structure

In this chapter:

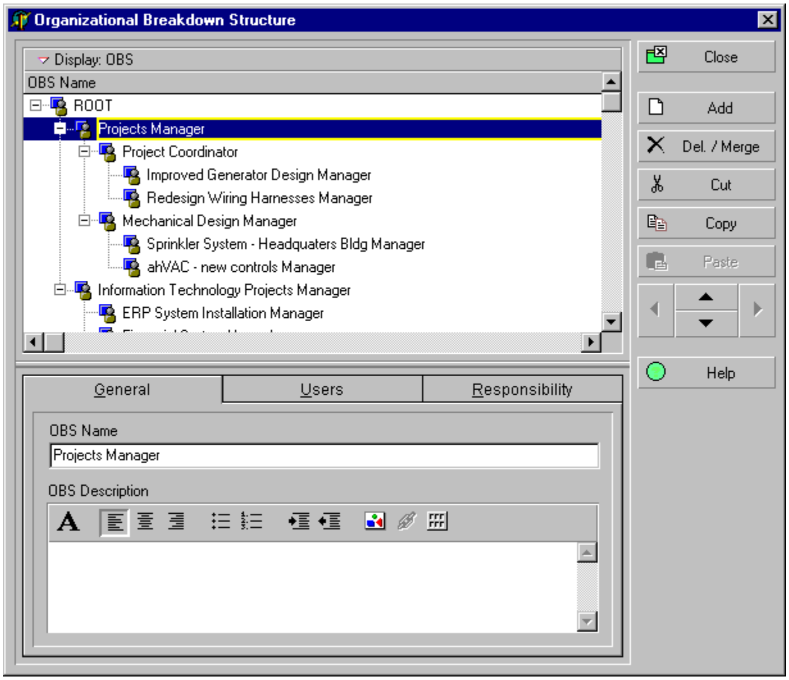
An organizational breakdown structure (OBS) is a hierarchical arrangement of a project's management structure. In P3e, user access and privileges to nodes and projects within the enterprise project structure (EPS) are implemented via responsible managers, defined in an enterprise-wide OBS hierarchy.

An OBS is not the same as a resource pool. While resources are assigned to activities, OBS elements are associated with EPS nodes and projects. The OBS element corresponding to an EPS node is the project manager responsible for all work included in that branch of the hierarchy. In this way, an OBS supports larger projects that involve several project managers with different areas of responsibility.

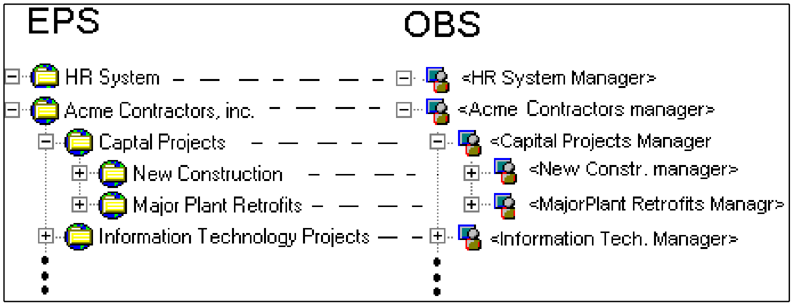
Read this chapter to learn how to set up an OBS and associate its elements with the EPS.

The Enterprise OBS

In P3e, the organizational breakdown structure (OBS) is a global hierarchy that represents the managers responsible for the projects in your enterprise. The OBS usually reflects the management structure of your organization, from top-level personnel down through the various levels constituting your business. You can associate the responsible managers with their areas of the EPS—either nodes or individual projects. When you associate a responsible manager with an EPS node, any projects you add to that branch of the EPS are assigned that manager element by default. The OBS hierarchy is also used to grant users specific access privileges to projects and the WBS levels within projects.



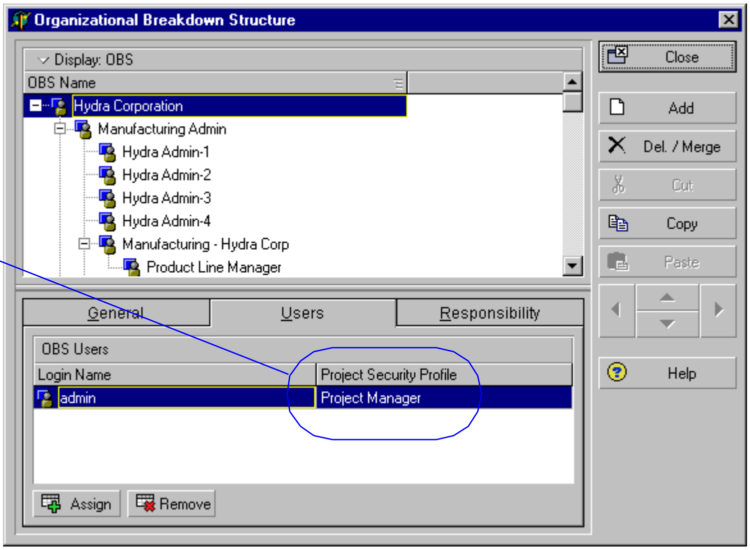
You may want to create your OBS to match each EPS node and project set up in the EPS. You could initially match OBS names to the EPS node and project names, as shown in the following example.



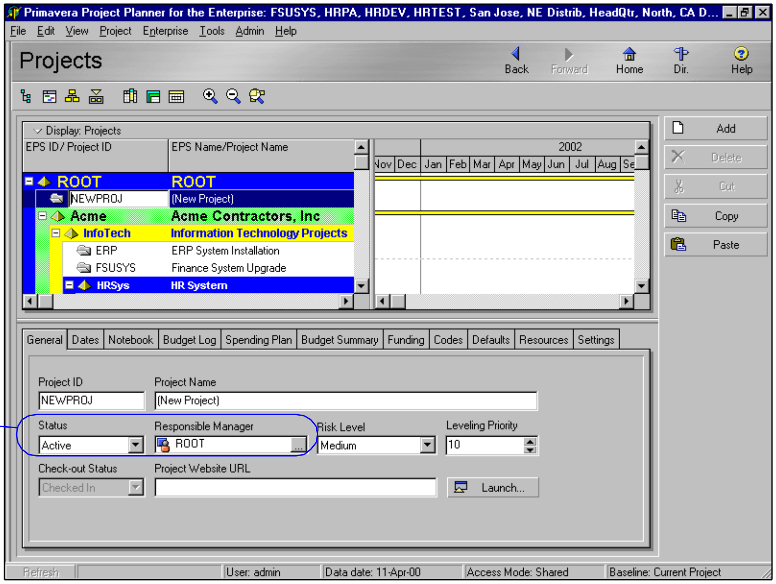
For more information about setting up security, see the *Primavera Enterprise Administrator's Guide*.

Then assign users, by their login names, to the OBS elements to grant access to the corresponding EPS nodes or projects. The type of access granted to a user is determined by the project security profile assigned to the user. Security profiles are set up on the Security Profiles dialog box (choose Admin, Security Profiles) and then assigned to users on the Users dialog box (choose Admin, Users).

This user will have project manager rights for the OBS element to which he or she is assigned.



Enterprise OBS nodes Creating an EPS node or a project in the Projects window automatically creates and associates an OBS node as the responsible manager.



P3e automatically associates the OBS assigned to the EPS node in which the new project is added.

The OBS may mirror the EPS at the node and project level or it might include additional OBS levels to accommodate your management organization. For example, you may want to specify team leaders as the responsible managers for the WBS levels of a project, and the project manager above the team leaders in the OBS as the responsible manager of the project. In this way, you can delineate appropriate access and security measures at various levels of the EPS while maintaining an OBS that accurately reflects your organization chart.

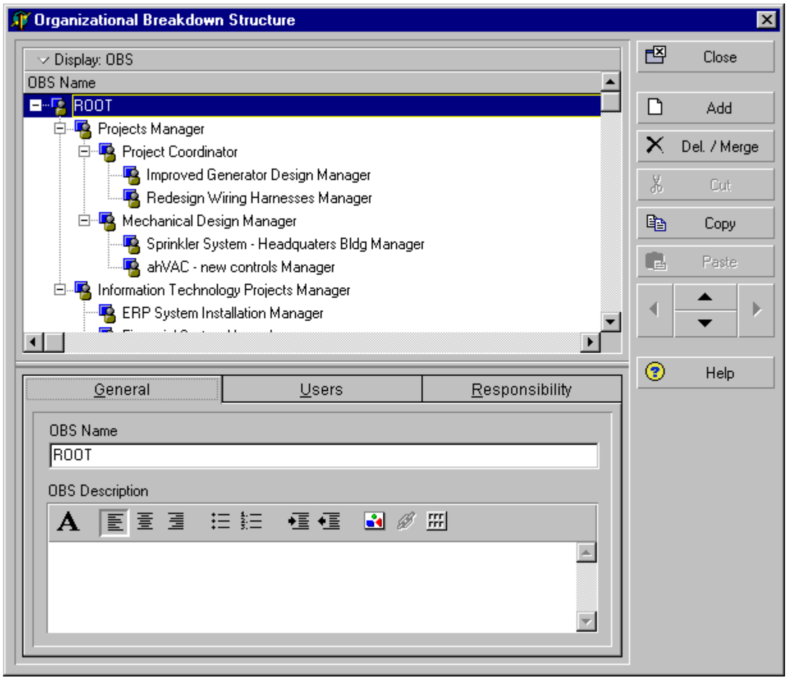
An OBS can have only one root element.

For more information about producing OBS and other standard reports, see *Part 5, Customizing Projects*.

You can also produce reports based on your OBS; several standard OBS reports are included with the sample projects supplied with P3e.

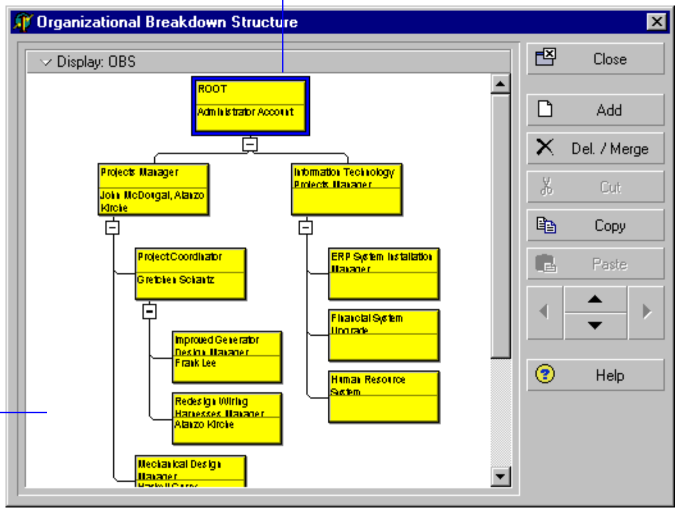
Viewing an OBS

P3e provides two ways to view an OBS: as a chart or a table. Choose Enterprise, OBS, to open the Organizational Breakdown Structure dialog box.



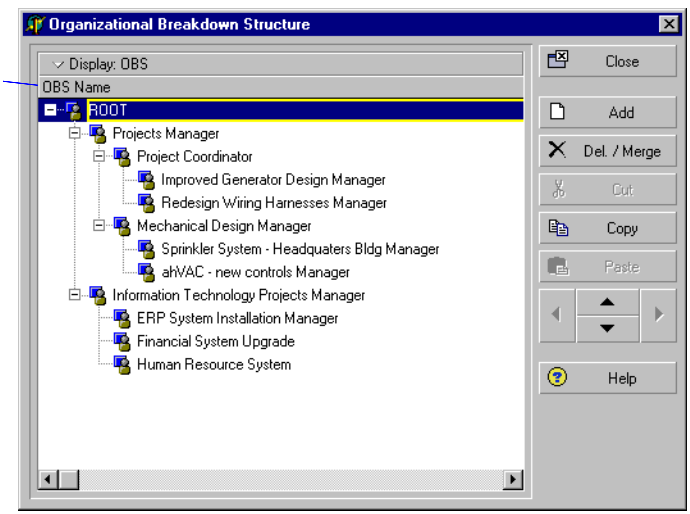
View the OBS chart Click the Display Options bar, then choose Chart View. To change the information that is included in the chart and the way in which it is displayed, click the Display Options bar and choose Chart Box Template, Customize.

This chart shows the OBS name and associated users for each OBS element; choose Chart Box Template, Customize to edit the information shown in the boxes and the box height and width.



OBS Details are hidden so that more of the chart is visible.

View the OBS table Click the Display Options bar, then choose Table View.



Click the OBS Name column once to view the OBS hierarchy; click it again to list and sort OBS elements.

Setting Up an OBS

Use the Organizational Breakdown Structure dialog box to create, view, and edit the global OBS. You can also use this dialog box to view a list of P3e users who can access an OBS element's global and project information, and to see how people are assigned across the enterprise of projects.

For more information about establishing EPS nodes, see the *Setting Up the Enterprise Project Structure* chapter.

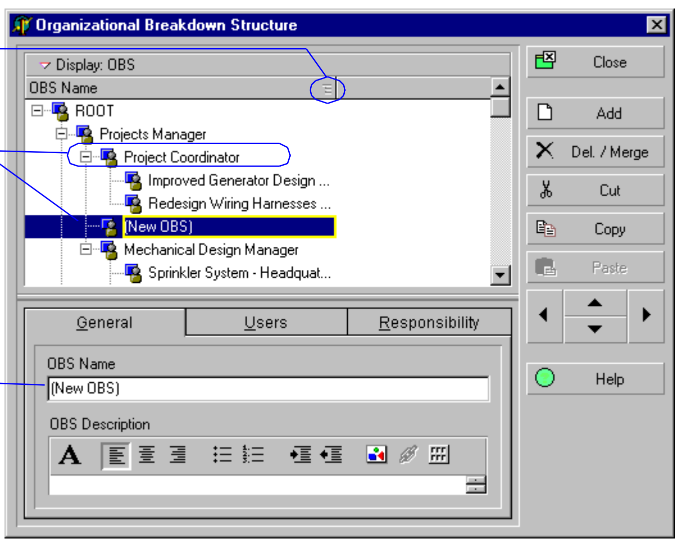
Create an OBS A root OBS node is automatically assigned to the root EPS node so that a default OBS element can be assigned to each project you add to the EPS root. When you use the Enterprise Project Structure dialog box to set up the EPS nodes that make up the foundation of the EPS, you can use the existing root EPS as the default for each node, or you can set up the OBS before you build the EPS. You can then assign actual responsible managers when you create EPS nodes. Once your basic OBS is in place, you can include additional OBS elements to provide access to specific EPS nodes, projects, and WBS elements, to users not included with the original enterprise OBS node.

Choose Enterprise, OBS. Select the OBS element immediately above and of the same hierarchy level as the element you want to add, then click Add.

Click the OBS Name column to display the OBS hierarchy, as indicated by this symbol.

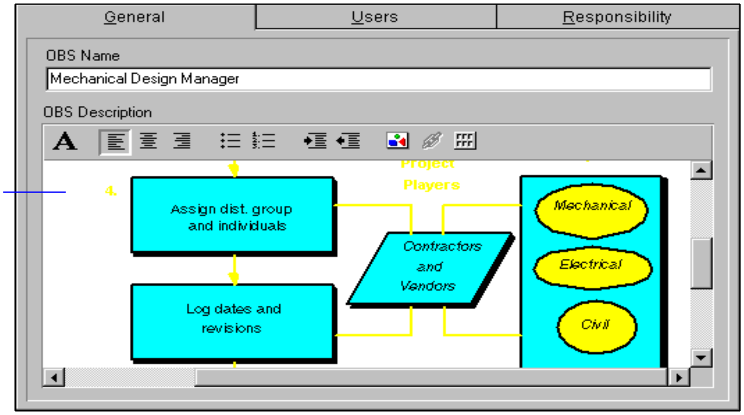
P3e inserts the new OBS element at the same level as the selected element.

Type a meaningful name for the new OBS.



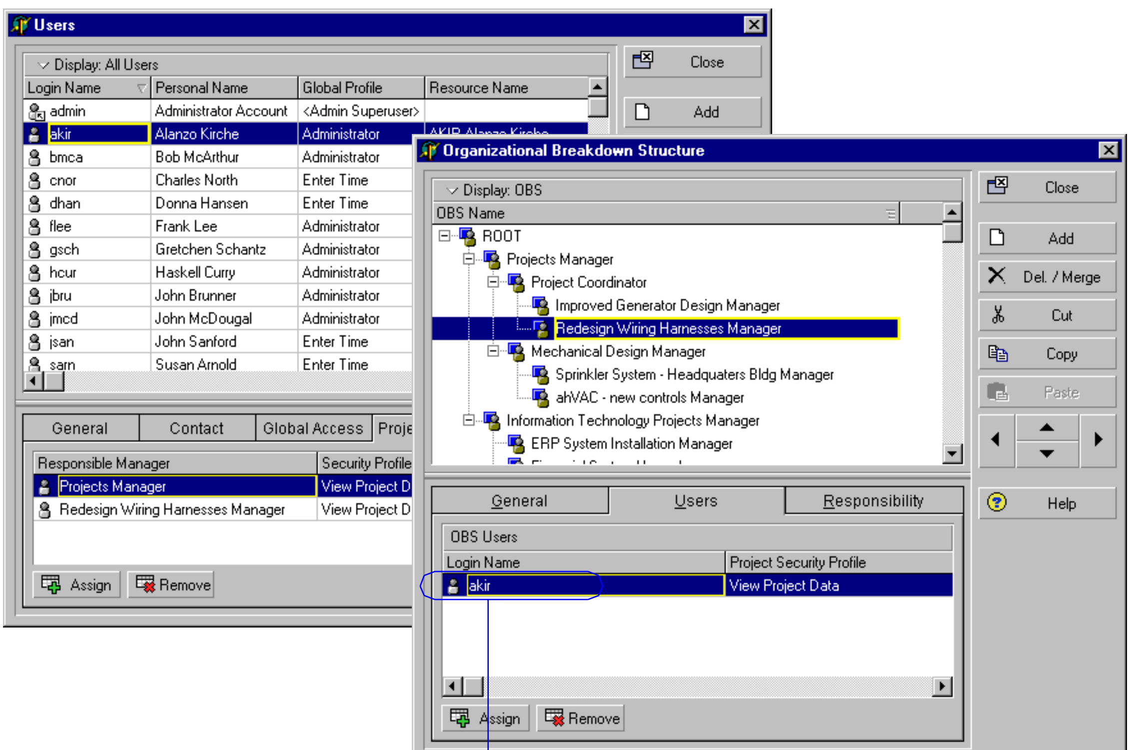
Click in the OBS Description area to type a description of the OBS element. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

This description contains a bitmap.



For details on establishing users and profiles, see the *Primavera Enterprise Administrator's Guide.*

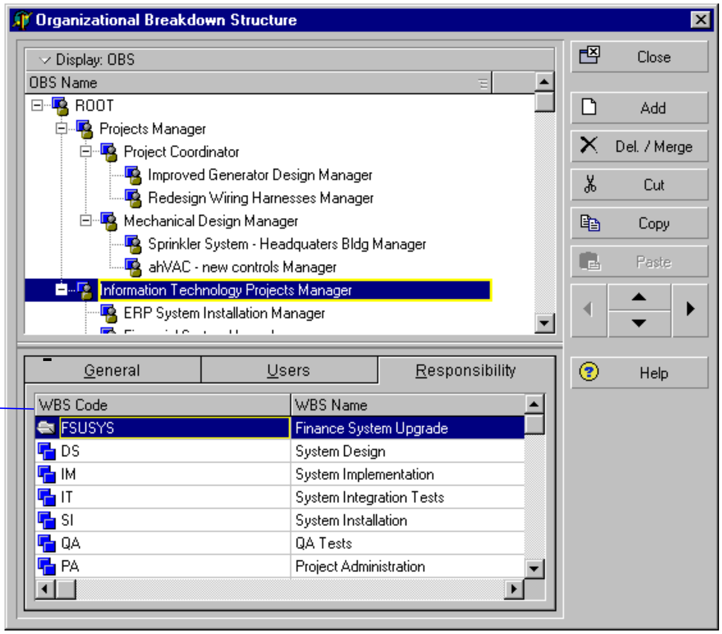
View users associated with OBS elements Click the Users tab in the Organizational Breakdown Structure dialog box to view the users and corresponding security profiles associated with an OBS element. You can also assign users from this tab, if you have appropriate access rights.



The user associated with the selected OBS at that particular level of the hierarchy

View a responsibility list Click the Responsibility tab to quickly see where responsible managers (OBS elements) are assigned across the enterprise. Select the OBS name for whom you want to see assignments.

Assignments for the selected manager are shown by WBS level across the EPS.

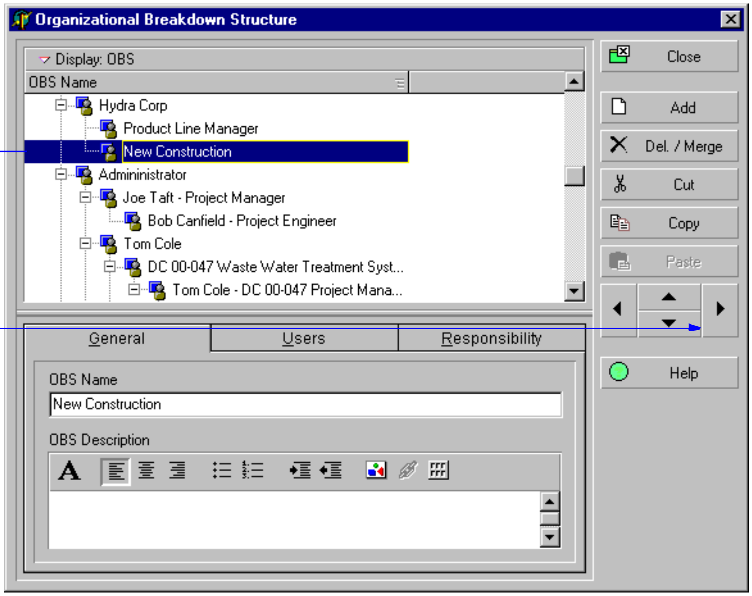


Editing OBS Elements

You can edit an OBS in several ways. You can change an existing OBS element's position and information, you can add an OBS element (described earlier), and you can delete an OBS element.

Edit an OBS element Choose Enterprise, OBS. Click the OBS Name column label to display the OBS hierarchy. (An outline icon in the OBS Name column label indicates a hierarchy display.) Select the OBS element you want to edit. To change the element's information, click the General tab and enter new information. To change the element's position in the OBS, click the appropriate arrow buttons.

The new OBS element was moved to the right using the right-arrow button, to make it an element of the Maintenance Manager OBS.



Delete an OBS element Choose Enterprise, OBS. Click the OBS Name column label to display the OBS hierarchy. Select the OBS element you want to delete, then click Del/Merge. If the OBS element you want to delete has WBS, issue, threshold, risk, or any other data item assignments, you are prompted to merge the element with its higher-level OBS element. Click Yes, then click Yes again.

If you delete a higher-level OBS element, P3e deletes all of the elements contained in that element.

Defining Resources and Roles

In this chapter:

Resources include the personnel and equipment that perform work on activities across all projects. Labor resources, such as engineers, are always time-based and are usually reused between activities and/or projects; nonlabor resources, such as materials, are recorded in terms of cost per unit, rather than hours. In P3e, you can create a resource hierarchy that reflects your organization's resource structure and supports the assignment of resources to activities. P3e also enables you to establish unlimited hierarchical resource codes for grouping and rollups. In addition, you can set up roles with specific skill sets and use them as resource assignments until specific resources can be assigned. This enables you to schedule and plan costs by role at the project planning stage. You can also assign resource calendars and shifts, and you can define a resource's contact information and price over time. This chapter describes resources, roles, and resource codes.

Resources Overview

Use P3e to develop a resource plan that integrates resources, costs, and the schedule so you can effectively control your projects. Begin by defining a list of all the resources necessary to complete the projects included in your enterprise structure. For each resource, set availability limits, unit prices, and a calendar to define its standard worktime and nonworktime. Group the resources by broad categories so you can easily find a specific resource when assigning resources to a project.

To enable grouping and rollups of your resources across the enterprise, set up resource codes and assign code values. Use this information to produce resource reports and profiles in P3e. Analyze the resource allocation, and adjust your project plan to avoid overallocation and peaks and valleys of resource use.

Resources are different than expenses. While resources are time-based and generally extend across multiple activities and projects, expenses are one-time expenditures for nonreusable items required by activities.

Roles If you are in the planning stage of your project or want to see how certain resource assignments will affect the schedule, you can assign roles as temporary placeholders for resource assignments. Roles are project personnel job titles or skills. They represent a type of resource with a certain level of proficiency—rather than a specific individual. Roles can also be assigned to specific resources to further identify that resource's skills.

For information about assigning resources to activities, see the *Working with Activities* chapter.

Primary resources An activity's primary resource is typically the resource who is responsible for coordinating an activity's work. The primary resource updates the activity's start date, finish date, and expected end date. In addition, if an activity has any nonlabor resources, the primary resource may be responsible for reporting the nonlabor resource's hours/units.

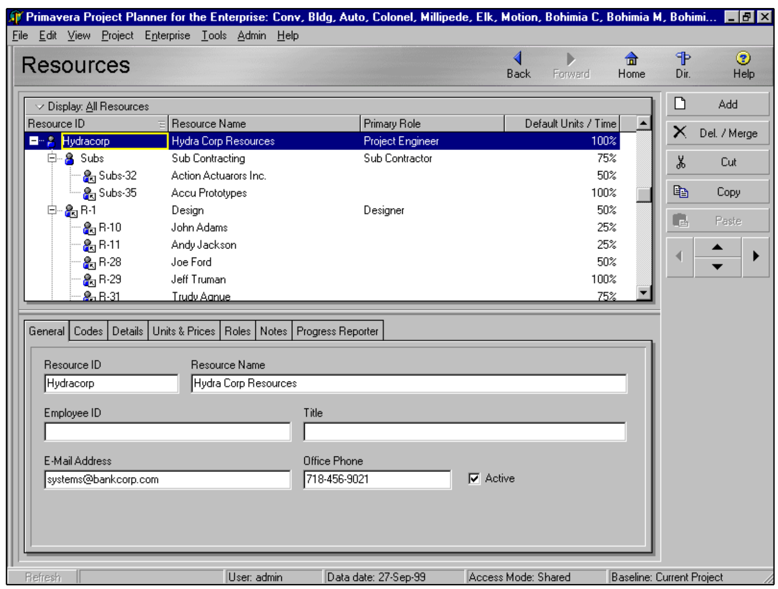
Primary resources are also responsible for editing the physical percent complete when weighted steps are linked to activity percent complete for the corresponding activities in a selected project.

Viewing and Adding Resources

Use the Resources window to view and add the resources required to complete all projects across the enterprise. Structure the hierarchy of resources according to the work performed. For example, you may have various teams comprised of individuals in several resource groups in the enterprise. You can set up the hierarchy so that the people managing these groups are at a higher level than the resources in the groups.

P3e enables you to set up multiple root, or top-level, elements in a resource breakdown structure (RBS). A root RBS element serves as the lead person (such as a manager), instead of a division or a department. For this reason, you cannot roll up lower-level resources to the root resource.

You can also open the Resources window at the global level—without any projects open.



Team leaders, project managers, and resource managers in charge of teams or groups in the enterprise should jointly establish the resource hierarchy. The program manager and/or project controls coordinator may need to participate in this process to make sure resources are distributed consistently based on availability.

To change the resource display from hierarchy to list view, click the Resource ID column label. A triangle icon in this column label indicates a list display. You can sort resource information in a list display by clicking a column label.

View resources Choose Enterprise, Resources, or click Resources on the Home workspace. Click the Display Options bar, then choose one of the following:

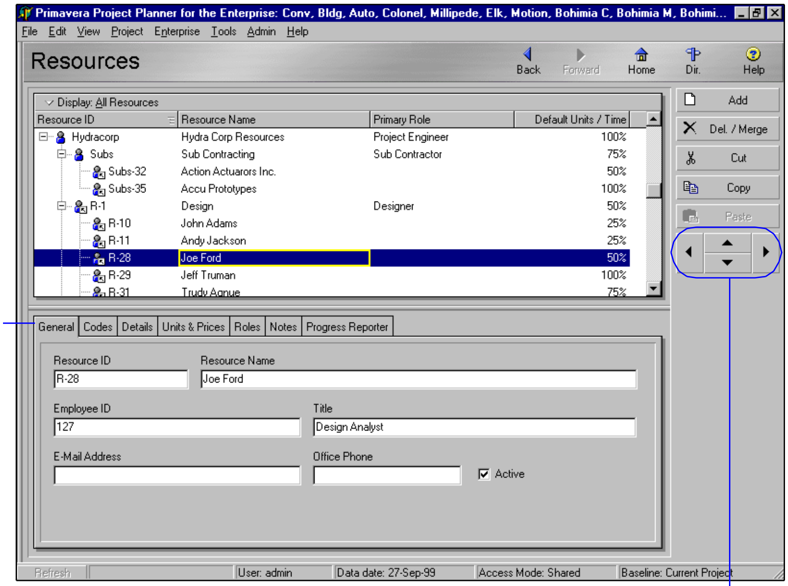
- To view detailed information about a specific resource, choose Details, then select the resource whose information you want to view.
- To view resources as a chart, choose Chart View.
- To select the columns to include in the display, choose Columns, Customize, or one of the predefined column displays.
- To select the resources to display, choose Filter By, then choose All Resources, Current Projects, or Active Resources.
- To organize the resource hierarchy, choose Group and Sort By, and choose one of the predefined groupings or customize your own.

Add a resource Choose Enterprise, Resources. Click the Display Options bar, then choose Group and Sort By, Default, to display the resource hierarchy. Select the resource immediately above and at the same level as the resource you want to add, then click Add. Depending on your user preferences, the New Resource Wizard may be started. The wizard prompts you to add the information included on each tab in Resource Details. If you do not use the wizard, this information can also be entered directly on each tab. To display Resource Details, click the Display Options bar, then choose Details.

Refer to this section to establish basic resource information. To specify additional information, refer to the following sections later in this chapter:

- Codes – *Defining and Assigning Resource Codes and Values*
- Roles – *Setting Up Roles* and *Assigning Roles to Resources*

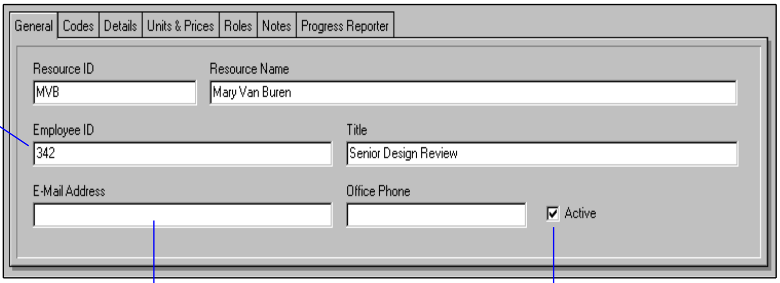
Use Resource Details to add, view, and edit detailed information about a new or selected resource.



Click the left/right arrows to indent or outdent a selected resource to denote its position in the hierarchy; click the up/down arrows to move a selected resource up or down in the hierarchy.

General information Use the General tab to enter general information about the selected resource, including the resource's ID, name, title, employee ID, e-mail address, office phone number(s), and status.

The employee identifier corresponding to the resource, such as social security number, used for the employee in your company



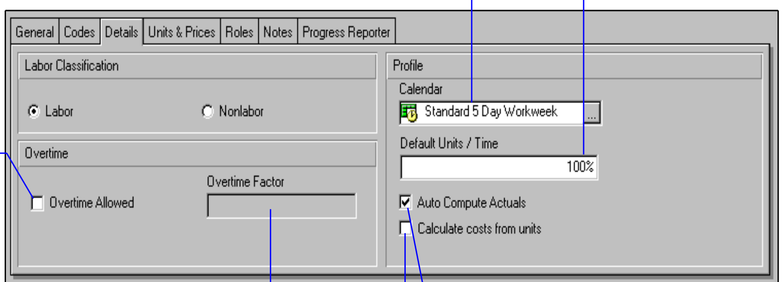
If the resource is associated with a user on the Resource Details Progress Reporter tab, this field will correspond to the E-Mail Address on the Contact tab of the Users dialog box.

If this checkbox is marked, the resource is available for assignment; if cleared, it indicates an inactive status or unavailability.

Details Use the Details tab to specify a resource's labor classification labor (personnel) or nonlabor (equipment), indicate whether a resource can log overtime hours, assign a calendar to the selected resource, define the resource's standard rate, specify how actual and remaining units are applied for a resource's assignments, and indicate that any assignments for a resource will have its quantities recalculated whenever any cost changes occur.

P3e uses your calendar assignments for activity scheduling, tracking, and resource leveling; you can select a global calendar or a resource calendar for the resource.

The minimum amount of time a resource is available to work on an activity



Mark to enable the resource to record overtime hours for activities in Progress Reporter.

*Type the number by which the resource's standard price should be multiplied to determine the resource's overtime price (standard price * overtime factor = overtime price).*

Mark to automatically calculate the selected resource's actual quantity of work according to project plan rather than reported hours in Progress Reporter; clear if you are using Progress Reporter to update actuals.

Mark to indicate that any new assignments for this resource will have its costs recalculated whenever any quantity changes occur, such as changing the estimate to complete for an activity.

Default Units/Time

You can enter the default units/time value as a percentage, or as a numeric value followed by a forward slash (/) and the appropriate time duration, depending on your user preference setting for time units. For example, if the selected resource is one person, then a reasonable value may be eight hours (units) per day (duration). In this case, the Default Units/Time would be 8.00h/d, or eight hours of work per day. If you are entering a percentage, you would enter 100% indicating that the resource is available to work full-time. Similarly, if the selected resource is a department with five people, then the Max Units/Time may be 40.00h/d, or 500%. This means that five people can perform 40 hours of work per day, rather than one person performing 8 hours of work per day. P3e uses this value in conjunction with the calendar assignment to calculate resource allocation/distribution during scheduling and leveling.

Marking the Calculate Costs From Units checkbox simply flags the corresponding resource in the RBS—if you customize columns in the Resources window to include the “Calculate Costs From Units” column, a checkmark will appear in that column for the corresponding resource(s). The actual setting to instruct P3e to perform a recalculation of resource quantities is on the Resources tab of Project Details and Activity Details.

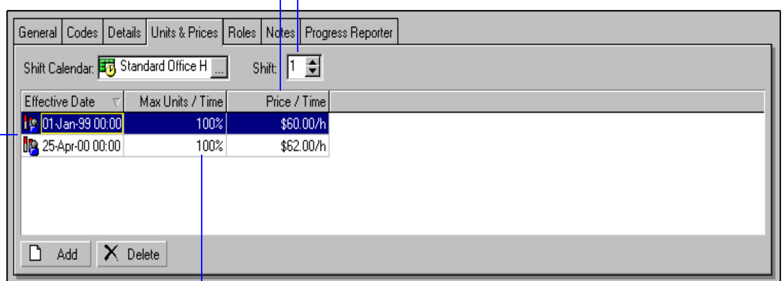
Define shifts using the Enterprise, Resource Shifts command.

Units and prices Use the Units & Prices tab to assign a shift for the selected resource, along with the available quantities (limits) for each shift, if the resource is assigned to more than one shift. Setting limits helps you quickly identify areas of resource overload in resource profiles using different colors to represent limits and overallocated units in histograms. P3e automatically adjusts the resource's costs for its assigned activities to reflect price changes for different timeperiods.

Double-click the cell, then type the resource's monetary price followed by a forward slash (/) and the time unit associated with the price.

Type or click the arrows to enter the applicable shift number for which you are setting limits, if the shift calendar has more than one shift.

You can set varying limits and prices over time by specifying the effective start date for each change.



The number of units available during each workperiod (hour, day, week, or month) of the specified timeframe; you can enter a percentage, or a numeric value followed by a forward slash (/) and the appropriate time duration, depending on your user preference setting for time units.

To level resources, you must set availability limits (Max Units/ Time).

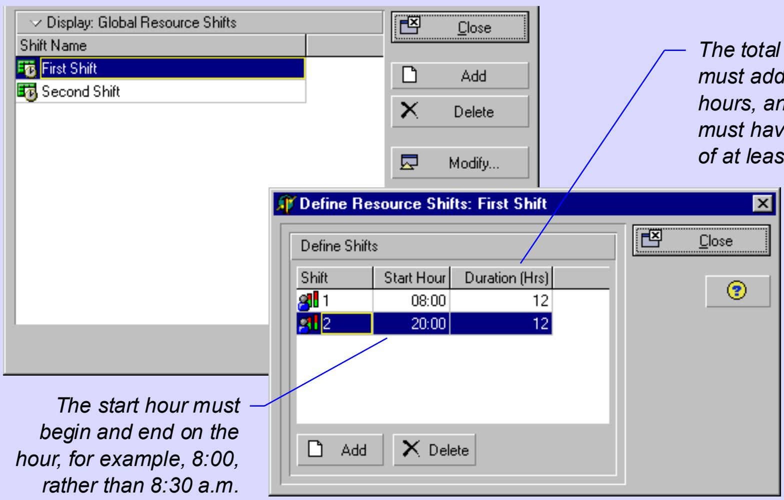
Using Limits for Delayed Resource Start

Use limits to delay the start of a resource in the project schedule until the resource is available. For example, suppose you hire a new engineer, Joe, but he does not start for another month. You can add Joe's activities and assignments to the project and then set the resource limits as follows:

Effective Date	Max Units/Time
10MAR00	0h/h
10APR00	1h/h

Resource Shifts

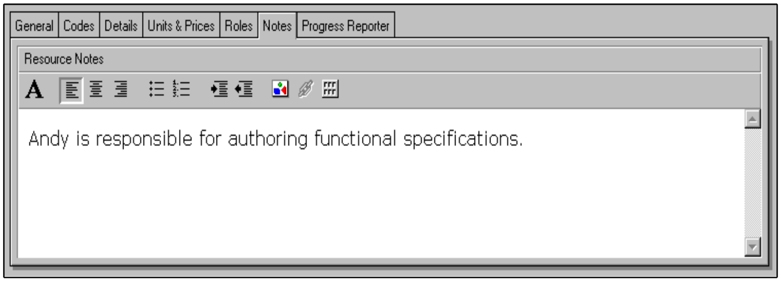
You can globally define shifts that span specific workhours over a certain period of time and apply one or more shifts directly to the resources to whom they apply. P3e considers shift hours when calculating units and prices during leveling. The resource calendar is used to determine when the resource can work, and the limits for that period are determined from the shift definition for that resource. The minimum resource availability for every shift must satisfy the minimum demand for the resource so that the resource can be leveled properly. P3e ignores limits defined outside of the boundaries of the shift definition. Since shifts are defined at the resource level, P3e levels all projects using that resource according to the shift definition. To define shifts, choose Enterprise, Resource Shifts. Click Add, then type the new shift's name. To edit the new shift, click Modify.



The total shift hours must add up to 24 hours, and each shift must have a duration of at least one hour.

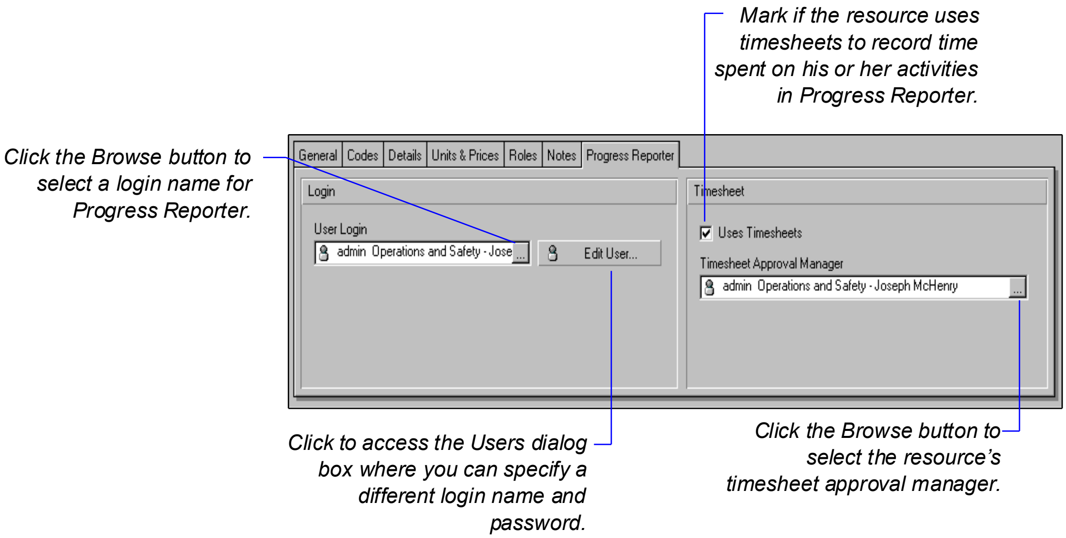
The start hour must begin and end on the hour, for example, 8:00, rather than 8:30 a.m.

Notes Use the Notes tab to enter comments about the resource. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.



For more information about configuring resources for use with Progress Reporter, see the *Primavera Enterprise Administrator's Guide*.

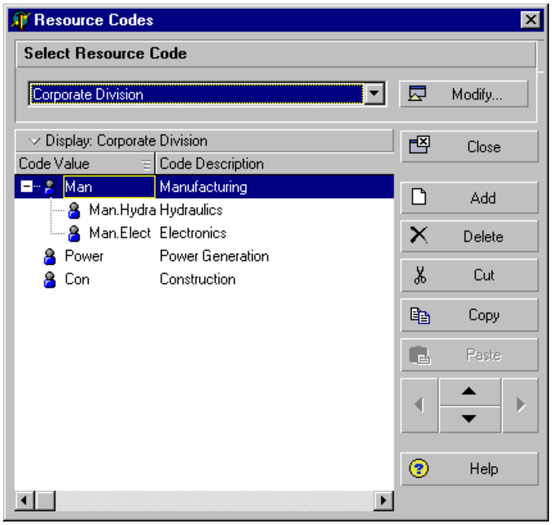
Progress Reporter Use the Progress Reporter tab to specify the selected resource's Progress Reporter login name and whether the resource uses timesheets to record hours for assigned activities. You must first set up login names in the Users dialog box. Choose Admin, Users, then click the General tab.



Defining and Assigning Resource Codes and Values

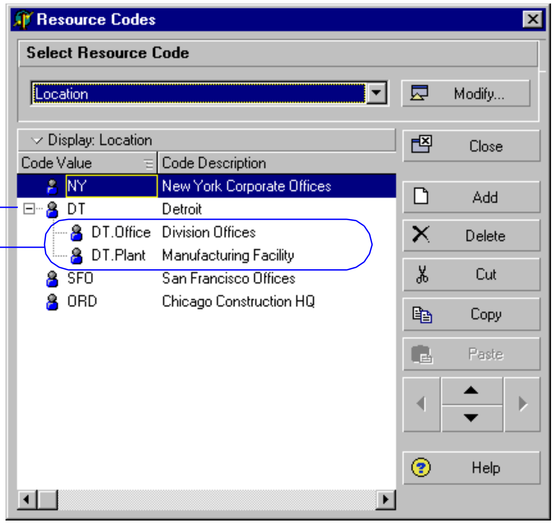
Resource codes provide another way to categorize project resources. For example, establish a code called Responsibility, and create values for it, for example, Team Lead and Engineer. Assign these values to the appropriate resources so you can quickly group, filter, or sort by all engineers or all team leads.

Set up resource codes Choose Enterprise, Resource Codes. Click Modify to add resource code definitions—broad categories for which you will be adding values. Type the resource code name and enter the maximum number of characters for each value you will be assigning to the code. Click Close when you are finished adding codes and value lengths.



Add resource code values In the Resource Codes dialog box, select the code for which you want to establish values, then click Add. Type the resource code value name; the maximum number of characters is preset at the resource code level. Type a description for the value. To create a hierarchy of code values, click the right arrow key to indent the selected value one level.

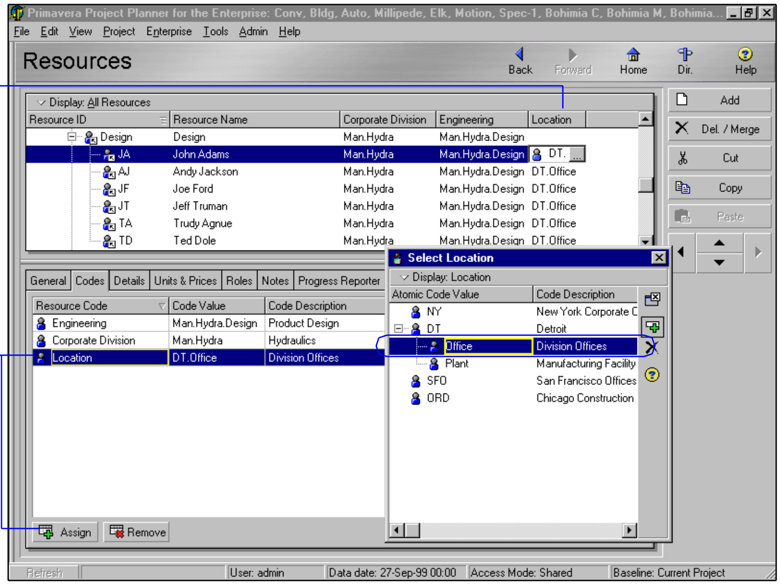
You can further categorize code values by arranging them in a hierarchy.



Assign resource code values You can assign code values to resources using the Codes tab in Resource Details or by creating resource code columns in the Resources window and then assigning values in the columns. To use the Codes tab, click the Display Options bar and choose Details (the box next to the command should be marked). Click the Codes tab, then click Assign. To use columns, click the Display Options bar, then choose Columns, Customize, and add one or more resource code columns. Refer to the following example:

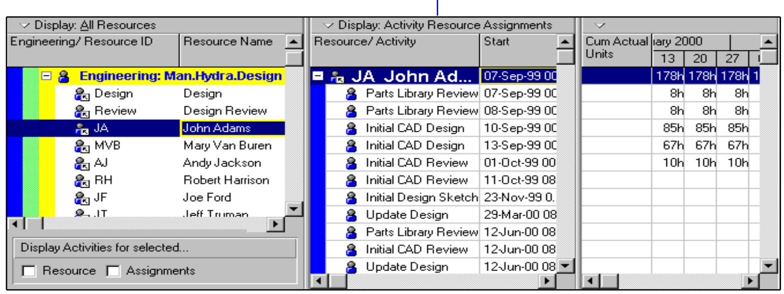
Customize columns to include the resource code(s) for which you want to assign values; click in the column cell for each resource to select the resource code value assignment.

Click Assign to select the resource code value for the selected resource.



Group and summarize using resource codes One way to use resource codes is for grouping and sorting in resource spreadsheets. Right-click in a resource spreadsheet layout and choose Group and Sort By, Customize. Grouping by resource codes enables you to quickly see the activities that are assigned to a particular area of responsibility or that are being performed by a specific group throughout your enterprise of projects. Click a group band to see a summary or rollup of a particular group.

This section lists the activity assignments for selected resource(s) or role(s), grouped by resource code.



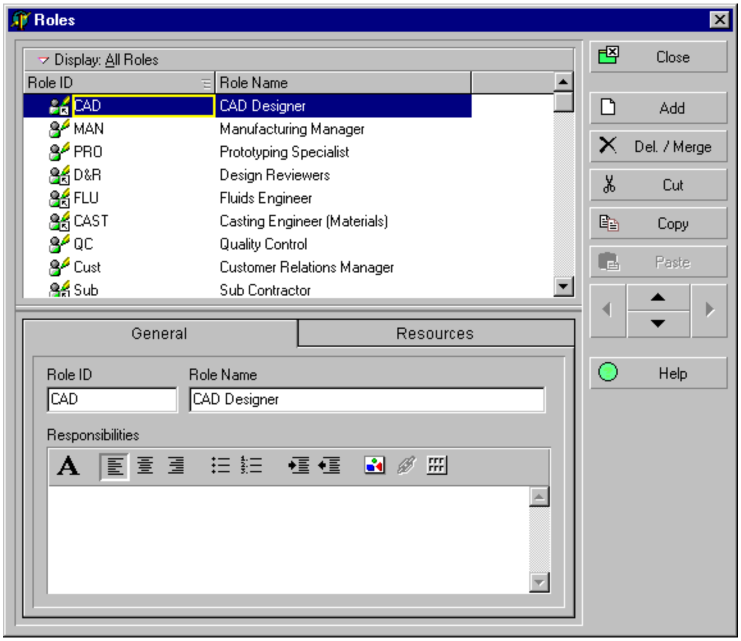
Setting Up Roles

Roles are project personnel job titles or skills, for example, mechanical engineer, inspector, and carpenter. In P3e, you can create a standard set of roles that you can assign to resources and activities in all projects in the enterprise. You can establish an unlimited number of roles and organize them in a hierarchy for easier management and assignment. The set of roles you assign to an activity defines the activity's skill requirements.

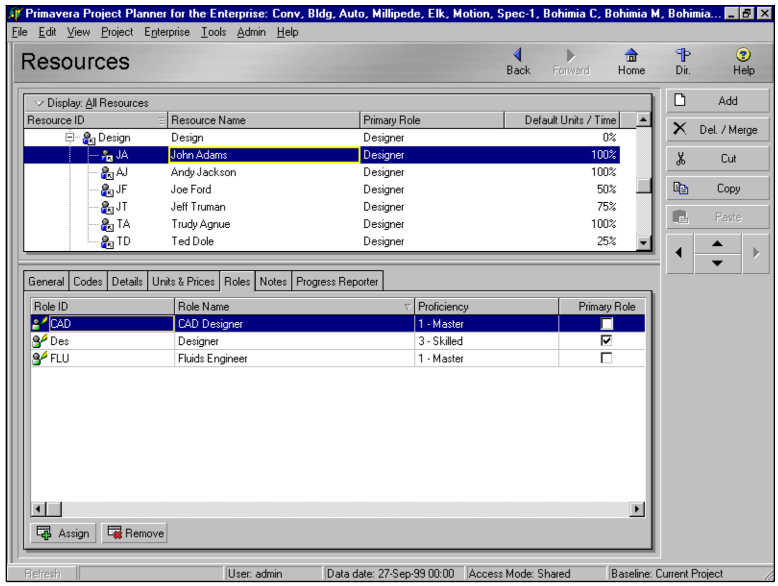
Assign roles to activities as you would resources during project schedule and cost planning. When your plans are finalized, you can replace roles with resources, based on each activity's role and skill requirements.

View roles Choose Enterprise, Roles, then click the Display Options bar.

- To view only those roles that have assignments in the open project, choose Filter By, Current Project.
- To view all roles, choose Filter By, All Roles.



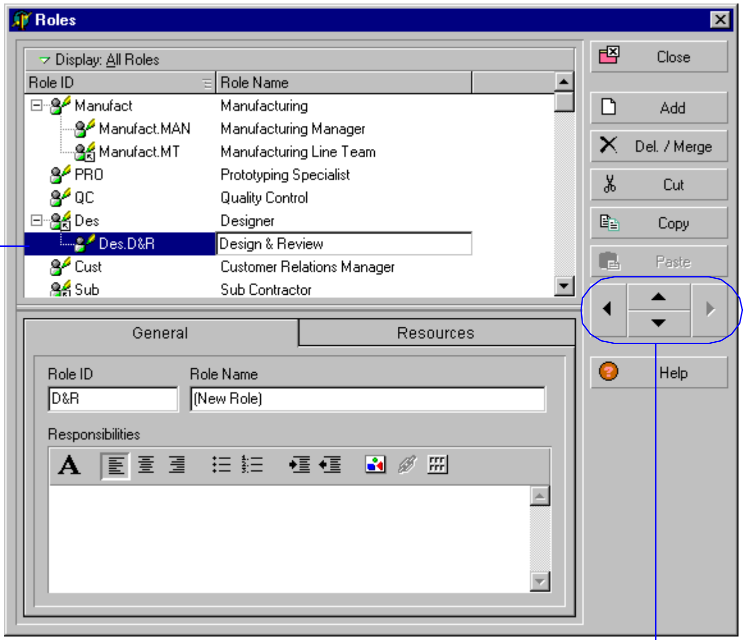
View roles for a specific resource Choose Enterprise, Resources. Select the resource whose roles you want to view. Display Resource Details by clicking the Display Options bar and choosing Details. Click the Roles tab.



Add a role Choose Enterprise, Roles. Select the resource immediately above and at the same level as the role you want to add, then click Add. Type the role's ID and name. To create a hierarchy of roles, click the right arrow key to indent the selected role one level. For example, you may want to list specific roles included under Construction, such as Plumber and Carpenter.

Type a description of the role's responsibilities. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other documents (while retaining formatting), and adding hyperlinks.

Replace the highlighted text with the ID and name of the new role.



Click the up/down arrows to move a role up or down in the list; click the left/right arrows to change a role's hierarchy level.

Assigning Roles to Resources

The set of roles you assign to a resource describes the resource's skill capabilities. These role assignments make it easy to assign resources to activities according to role. You can also assign roles to activities directly when you are unsure of the actual resources available to work on those activities. You can later replace the roles with the applicable resources.

For information on assigning resources to activities by role, see the *Working with Activities* chapter.

P3e provides two ways to assign roles to resources. You can assign roles to resources from the Resource Details window, and you can assign roles to resources from the Roles dialog box.

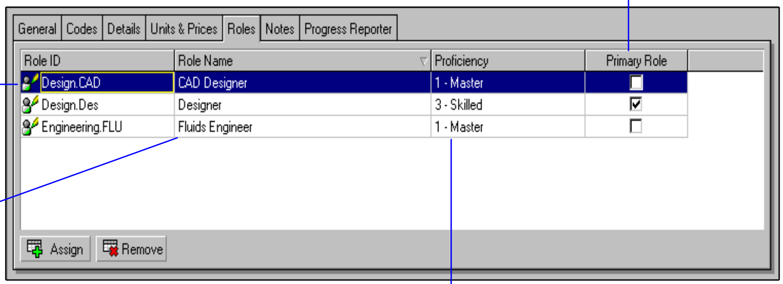
Assign roles to resources from the Resource Details window

Choose Enterprise, Resources, select the resource to which you want to assign a role, click the Display Options bar, then choose Details. Click the Roles tab, then click Assign.

Mark the checkbox for the role you want to use as the default role, if there are more than one listed for the resource.

Displays resource role(s) for the selected resource; click the Role ID column label to sort the display.

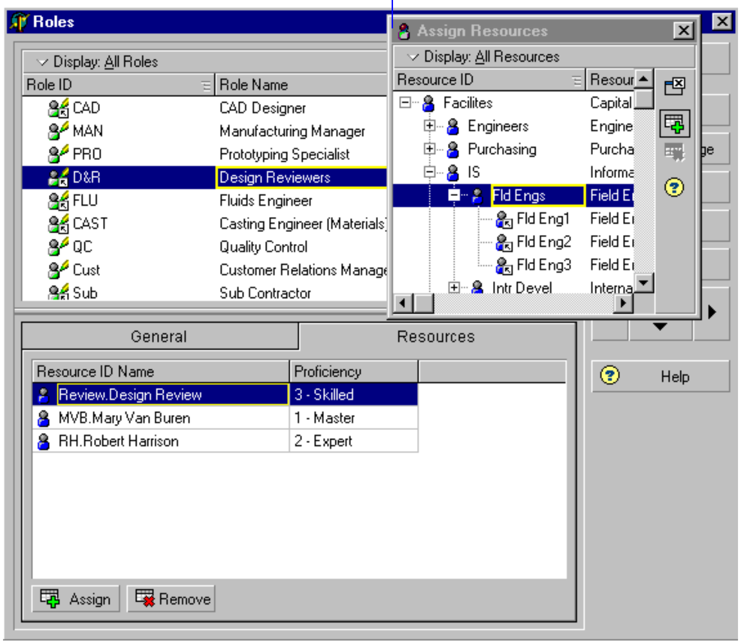
You can modify role names in the Roles dialog box (choose Enterprise, Roles).



You can analyze resource and skill supply and demand using role and proficiency usage profiles.

Assign roles to resources from the Roles dialog box Choose Enterprise, Roles. Click the Display Options bar, then choose Details. Select the role you want to assign. Click the Resources tab, then click Assign.

Select the resource to which you want to assign the selected role; Click the Assign button, then click the Close button.



Double-click the displayed proficiency level, then select the appropriate proficiency level.

Reviewing Work Breakdown Structures

In this chapter:

A work breakdown structure (WBS) is a hierarchical arrangement of the products and services produced during and by a project. The project is the highest level of the WBS while an individual activity required to create a product or service is the lowest level. Each project in the enterprise project structure (EPS) has its own WBS.

When creating a project in P3e, the project manager typically develops the WBS first, assigns reference documents to each WBS element, and then defines activities for performing the element's work. Specific earned value calculations can be specified for each WBS element, along with an organizational breakdown structure (OBS) element responsible for all work included in the WBS element.

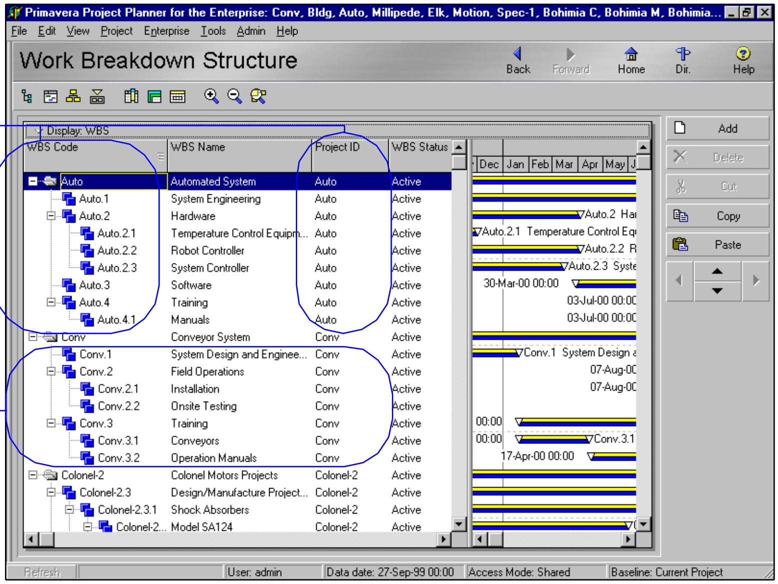
Read this chapter to learn how to set up and implement a WBS.

The Enterprise WBS

The enterprise work breakdown structure (WBS) consists of the WBS for each project included in the enterprise project structure (EPS), in effect, extending the EPS beyond the project level. You can view the entire WBS at once, or you can display only the work breakdown structures for a specific node or project. Open the EPS element whose WBS you want to view, then choose Project, WBS.

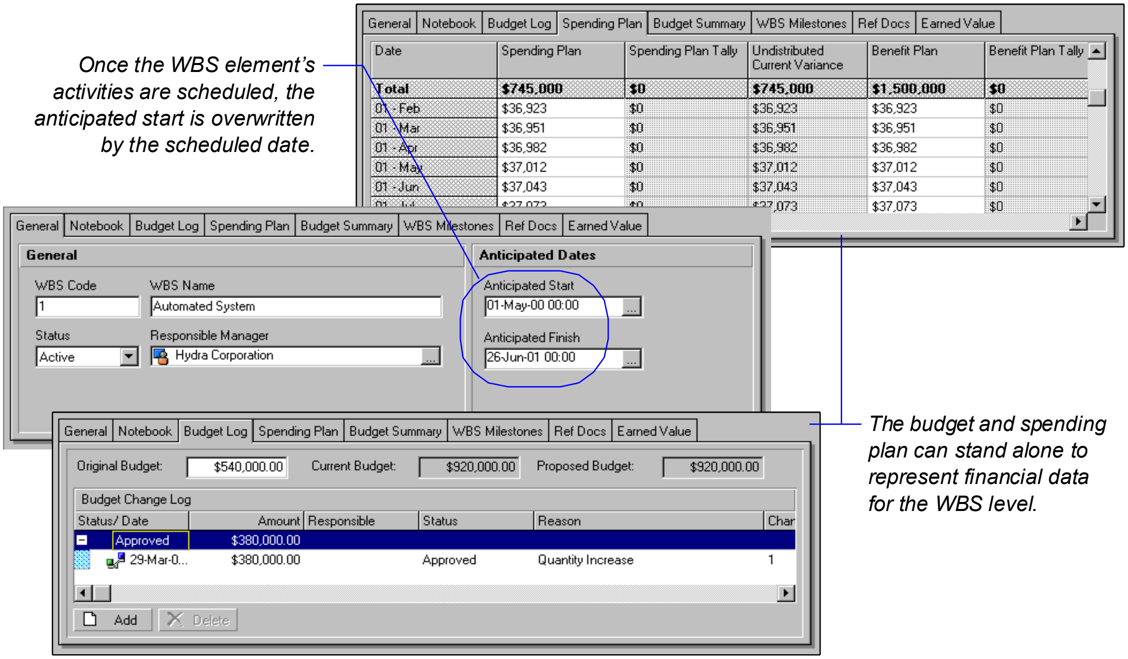
When you a create project, P3e automatically creates a WBS element at the same hierarchy level and with the same name as the project; you can differentiate the WBS level from that of the project by adding numbers or letters such as Auto.1, Auto.B.

You can break down the work further, essentially extending the EPS to another level.



Planning and budgeting P3e enables you to set anticipated dates, budgets, and spending plans at a high level in a WBS to indicate when the work should occur and how much its planned budget and monthly spending will be. Because financial information is shared between projects and their WBS elements, you can use the preestablished budget amounts and funding information you set for WBS elements immediately for their project and activity counterparts.

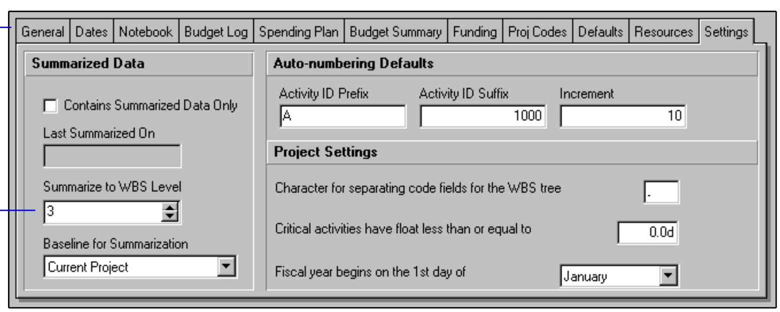
Once the WBS element's activities are scheduled, the anticipated start is overwritten by the scheduled date.



The budget and spending plan can stand alone to represent financial data for the WBS level.

You can also summarize project data to a specific WBS level when calculating and maintaining summary data.

Project Details



The WBS levels to which you want P3e to summarize data for use in Portfolio Analyst

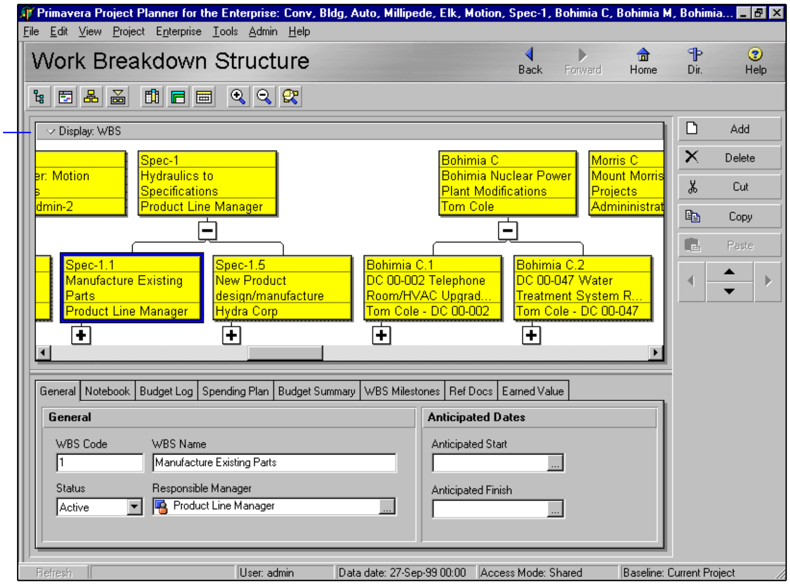
You can also use the WBS at the planning stage of a project for top-down estimations and summary rollups of data not yet associated with projects. For example, you can create a WBS for a higher-level node of the EPS and include summary data, planned budgets, and dates, independent of any project.

Viewing a WBS

P3e provides two ways to view a WBS: as a chart or a table. Open the Work Breakdown Structure window by choosing Project, WBS; you can also click WBS from the Home workspace if you have not yet selected a window for the open project.

View the Work Breakdown Structure chart Click the Display Options bar, then choose Show on Top, Chart View. To change the displayed information, click the Display Options bar and choose Chart Box Template, then an information type.

To change the display's content and appearance, click the Display Options bar, then choose Chart Box Template and/or Chart Font and Colors.



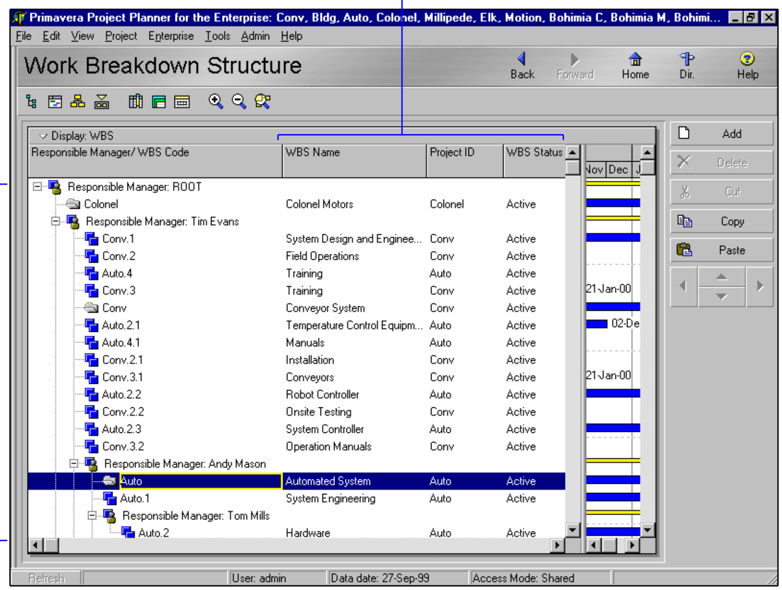
View the Work Breakdown Structure table Click the Display Options bar, then choose Show on Top, WBS Table. To list and sort WBS elements, click the WBS Code column label. To change the information displayed in the table, click the Display Options bar, then choose any of the following:

- To view detailed information about a specific WBS element, choose Show on Bottom, WBS Details, then select the WBS element whose information you want to view. To hide WBS Details, choose Show on Bottom, No Bottom Layout.
- To change the columns in the WBS display, choose Columns, then one of the predefined displays, or customize the columns.

You can also choose to display a Gantt chart to the right of the WBS table. Click the Display Options bar, then choose Show on Top, Gantt Chart.

Click the Display Options bar, then choose Columns, Customize, to select only the columns you want to display.

This display is outlined according to OBS assignment.



Adding WBS Elements and Assigning Properties

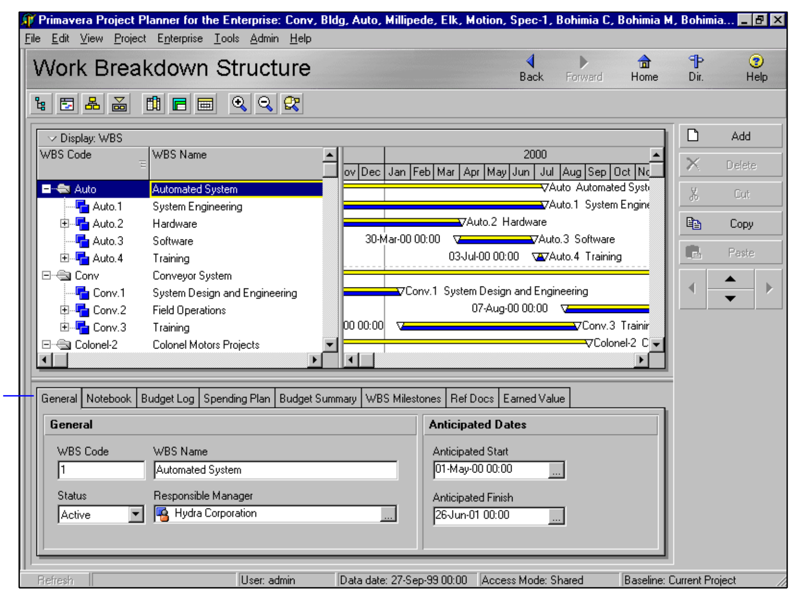
When you create projects, P3e automatically creates a WBS top-level element with the same name and EPS and project IDs as the project. Use the Work Breakdown Structure window to view and edit the open project's WBS.

Add a WBS element Choose Project, WBS. Select the WBS element immediately above and at the same hierarchy as the element you want to add, then click Add.

Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details. Refer to the following sections to establish basic WBS properties. To specify additional information, refer to the following chapters:

To include/exclude tabs, right-click in the Details area, and choose Edit Activity Details.

- Notebook tab – *Setting Up the Enterprise Project Structure* chapter
- Budget Log, Spending Plan, and Budget Summary tabs – *Defining Budgets* chapter
- WBS Milestones – *Using WBS Milestones* later in this chapter
- Ref Docs tab – *Maintaining a Project's Document Library* chapter
- Earned Value tab – *Defining Earned Value Settings for Specific WBS Elements* section later in this chapter

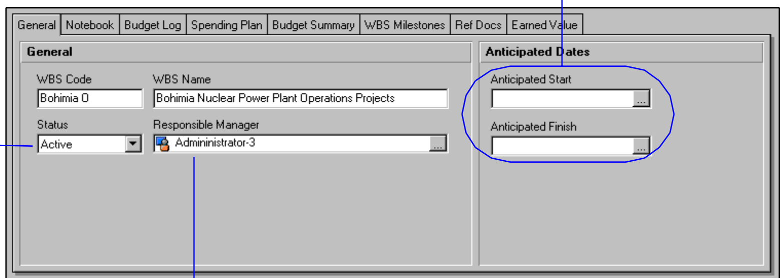


Display Work Breakdown Structure Details so you can add and assign information for each WBS element you are creating.

General information Use the General tab to view and edit the selected WBS element's general information. This includes the code, name, status, and responsible manager.

The user-defined dates the project/activity(ies) associated with the WBS element are expected to start and finish; used during the project planning stage, and set at the WBS, EPS, or project level

Determines accessibility by Progress Reporter users to activities within that WBS; a status other than Active disallows access.



The name of the selected WBS element's root OBS element

The Status setting also determines a project's inclusion during summarization; any activities within a WBS element that has a status other than What-If are included in the summary run. For more information about summarizing data, see the Using Project Tools *chapter. Other WBS statuses are Inactive and Planned.*

You can also directly edit some WBS information in the Work Breakdown Structure table. Double-click the information you want to change, then type or select the new value.

Edit a WBS element Select the WBS element you want to edit. To change the element's position in the WBS, click the appropriate arrow buttons at the bottom of the command bar on the right side of the Work Breakdown Structure window. Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details, then enter new information in the tabs as described earlier in this chapter in *Adding WBS Elements and Assigning Properties*.

Delete a WBS element Choose Project, WBS. Select the WBS element you want to delete, then click Delete. If the WBS element(s) you want to delete has activity assignments, you are prompted to delete the WBS element and all of its activity assignments, or delete the WBS element and reassign, or merge, all of its activity assignments to the element's higher-level WBS element. Click OK, then click Yes.

If you delete a higher-level WBS element, P3e also deletes all elements contained in that element.

How a WBS Element's Status Affects Progress Reporter Users

P3e recognizes four status types for WBS elements: Planned, Active, Inactive, and What-If.

Planned WBS elements If a WBS element's status is Planned, then Progress Reporter users cannot view any activities included in the WBS element. This prevents Progress Reporter users from assigning themselves to and performing work on activities assigned to a WBS element that is not authorized for actual use.

Active WBS elements If a WBS element's status is Active, then Progress Reporter users can view all activities included in the WBS element. Depending on their Progress Reporter privileges, users may also be able to assign themselves to and perform work on activities that are included in an Active WBS element.

If a WBS element belongs to a higher-level WBS element, the element has the same status as that element.

Inactive WBS elements If a WBS element's status is Inactive, then Progress Reporter users cannot view any activities included in the WBS element. This prevents Progress Reporter users from assigning themselves to and performing work on activities assigned to a WBS element that is not valid.

Also, when scheduling, P3e interprets an activity assigned to an Inactive WBS element as an activity of zero duration. While the actual duration you define for the activity does not change, P3e schedules the activity's start and finish dates as the same date.

What-If WBS elements If a WBS element's status is What-If, then Progress Reporter users cannot view any activities included in the WBS element. This prevents Progress Reporter users from assigning themselves to and performing work on activities assigned to a WBS element that is not authorized for actual use.

If a WBS element belongs to a higher-level WBS element, the element has the same status as that element.

Using WBS Milestones

In the initial stages of project planning, the project manager, and other individuals responsible for establishing project processes, need to decide how P3e will calculate earned value, percent complete, resource use, and financial data.

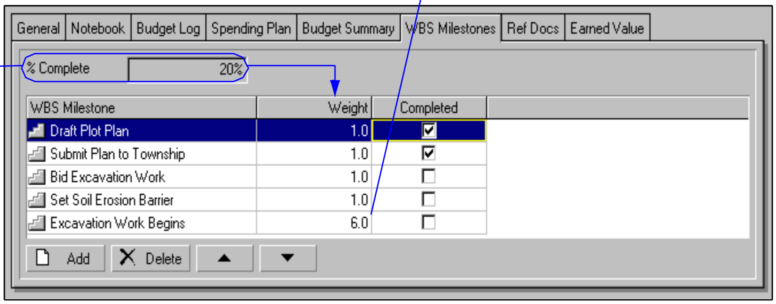
In P3e, you can add an unlimited number of WBS milestones, which can also be used to calculate earned value. Milestones are assigned at the WBS level, and each milestone is given a weight that indicates its importance to the project schedule. When you mark a WBS milestone as complete, P3e uses its weight to calculate the performance percent complete of all activities included in the WBS level. That is, the performance percent complete is applied to all activities under that WBS level and then rolled back up to the WBS.

For example, suppose a particular level of the WBS includes 10 activities, and actual finish dates have been entered for 5 of these activities. The same WBS level is also assigned four WBS milestones having equal weights, but only one of these milestones is marked as complete. P3e uses the completed WBS milestone to calculate the WBS level's performance percent complete as 25, even though half the activities included in the WBS level are finished.

You may want to use WBS milestones when higher-level task increments comprise a body of activities and you want to control the activities at the WBS level. For example, to control the excavation work in site preparation, you might assign WBS milestones to the major steps required to complete the excavation—such as drafting a plot plan, bidding excavation work, and so on. Each of these milestones would contain the detailed activities required to complete it.

Because excavation is the culmination of the other milestones and activities for the WBS element, its weight is a larger number.

The first two milestones are complete, and the corresponding performance percent complete, relative to the other WBS milestones, is shown.

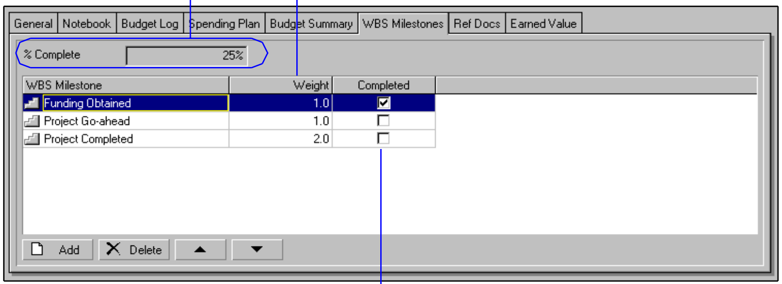


If a WBS element has no activities beneath it, and you mark milestones as complete, the performance percent complete will remain zero. To calculate performance percent complete, add a dummy activity to the WBS element.

Add WBS milestones Use the WBS Milestones tab to add an unlimited number of WBS milestones to a WBS element. Click Add, then type a name for the milestone and assign a weight for calculating performance percent complete for all activities in the WBS element.

P3e calculates this performance percent complete, or earned value, based on the weighted milestone(s) you mark as complete on this tab, independent of the child activities corresponding to the selected WBS element.

Type a number indicating the significance of this milestone relative to the others listed, and to calculate a corresponding percent complete value when the milestone is marked Completed.



When you mark the checkbox for a milestone, P3e calculates the performance percent complete for the WBS element based on the milestone's weight value in combination with the other milestones listed.

How Weights Affect Percent Complete

If all weighted milestones for a WBS element have a value of 1.0 and you have a total of four milestones, marking one as Completed would indicate that the WBS element is twenty-five percent complete. If this same milestone had a weight of 9.0, and the other three had 1.0 weights, marking it complete would indicate that the WBS element is seventy-five percent complete. P3e uses the following formula to calculate percent complete from weighted milestones:

Actual Weight of Completed Milestones / Total Possible Weight of All Milestones

Applying this formula to the previous example, the completed milestone has a weight of 9.0, and is divided by the total weight of all milestones (12.0), to equal seventy-five percent complete.

Assigning WBS Category Values

Depending on your security profile, P3e enables you to define a custom category and category values for WBS elements. This category and its values are not project-specific; you can assign category values to all WBS elements in the EPS, which allows you to customize P3e to reflect your organization's terminology and unique requirements. This category and its values also enables you to group, sort, and filter WBS elements throughout P3e.

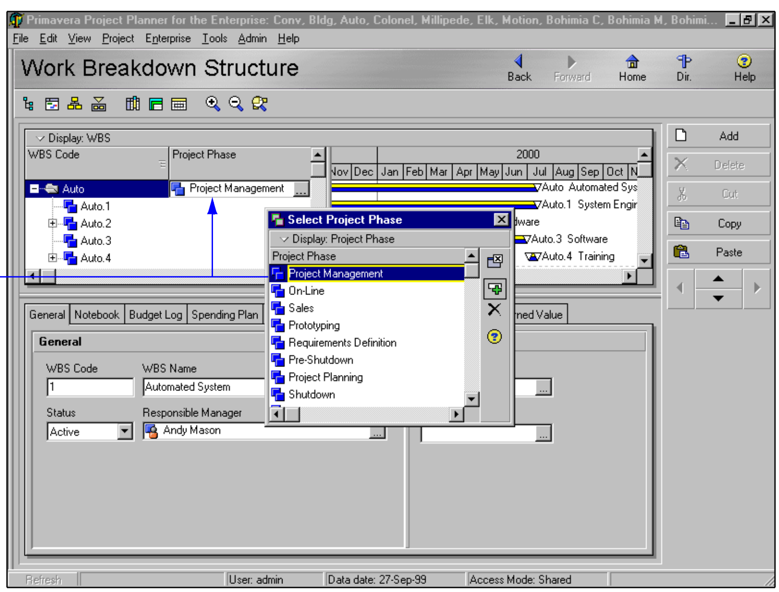
For more information about defining a WBS category and values, see the *Defining Administrative Preferences and Categories* chapter.

Establish a custom category and its values using the Admin Categories dialog box. The Admin Categories dialog box appears when you choose Admin, Admin Categories.

You can also include each WBS element's assigned WBS category value in the display by clicking the Display Options bar and choosing Columns, Responsible Manager.

Assign a WBS category value Choose Project, WBS. Add the WBS category as a column by clicking the Display Options bar and choosing Columns, Customize. Select the WBS category name under General in the Available Options area, then click the right arrow button to move it to the Selected Options column; click OK. Select the WBS element to which you want to assign a category value, then click the Browse button in the WBS category column.

Select the value to assign to the WBS element.



Select the category value you want to assign, click the Select button, then click the Close button.

Defining Earned Value Settings for Specific WBS Elements

Earned value is a technique for measuring project performance according to both project costs and the schedule. This technique compares the budgeted cost of work to the actual cost of work performed. While earned value analyses are typically performed for WBS elements, you can also perform an earned value analysis for activities and groups of activities.

Use the Earned Value tab in Work Breakdown Structure Details to specify settings for calculating the selected WBS element's earned value. Earned Value cost, also known as the Budgeted Cost of Work Performed (BCWP), is the portion of the budgeted total cost of the activity that is actually completed as of the project data date; it is calculated as

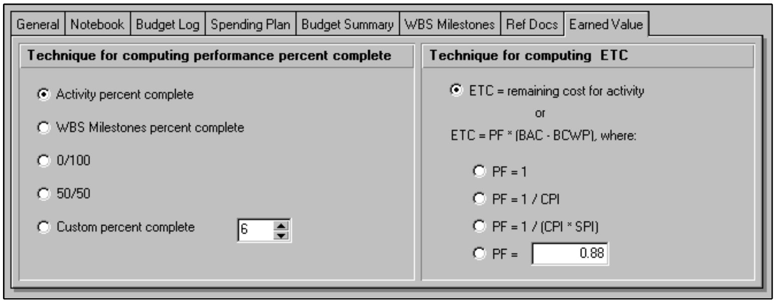
Earned Value = Budget At Completion (BAC) x Performance % Complete

The method for calculating the performance percent complete depends on the earned-value technique selected for the activity's WBS.

To define default earned value settings for all WBS elements, choose Admin, Admin Preferences, then click the Earned Value tab.

Define earned value settings for a specific WBS element

Display Work Breakdown Structure Details by clicking the Display Options bar and choosing Show on Bottom, WBS Details. Select the WBS element whose earned value settings you want to define, then click the Earned Value tab.



In the Technique for Computing Performance Percent Complete area, choose the completion percentage method you want to use when calculating an activity's earned value:

- **Activity Percent Complete:** Calculates earned value according to current activity completion percentages and the percent complete type selected on the General tab of Activity Details

- **WBS Milestones Percent Complete:** Calculates earned value according to completion of the WBS element's weighted milestones, rather than the completion percentages of the element's activities
- **0/100 Percent Complete:** Calculates earned value as 100 percent only after the activity ends. Until the activity is complete, the activity's earned value is zero percent.
- **50/50 Percent Complete:** Calculates earned value as 50 percent after the activity starts and until the activity ends. After the activity ends, the activity's earned value is 100 percent.
- **Custom Percent Complete:** Calculates earned value as a percentage you specify. This percentage applies after the activity starts and until the activity ends. After the activity ends, the activity's earned value is 100 percent.

In the Technique for Computing ETC area, choose the method you want to use when calculating an activity's estimate to complete (ETC) value:

- **ETC = Remaining Cost for Activity:** Calculates ETC values as the remaining cost to complete an activity (ETC = remaining duration of activity * applicable resource rates)
- **PF = 1:** Calculates ETC values as Budget At Completion (BAC) less Earned Value Cost (BCWP). This method yields an optimistic result.
- **PF = 1/CPI:** Calculates ETC values according to a Performance Factor (PF) of 1 divided by the Cost Performance Index (CPI).This method yields the most likely result.
- **PF = 1/(CPI*SPI):** Calculates ETC values according to a PF of 1 divided by the product of the CPI and Schedule Performance Index (SPI). This method yields a pessimistic result.
- **PF =:** Calculates ETC values according to a PF you specify

Defining Budgets

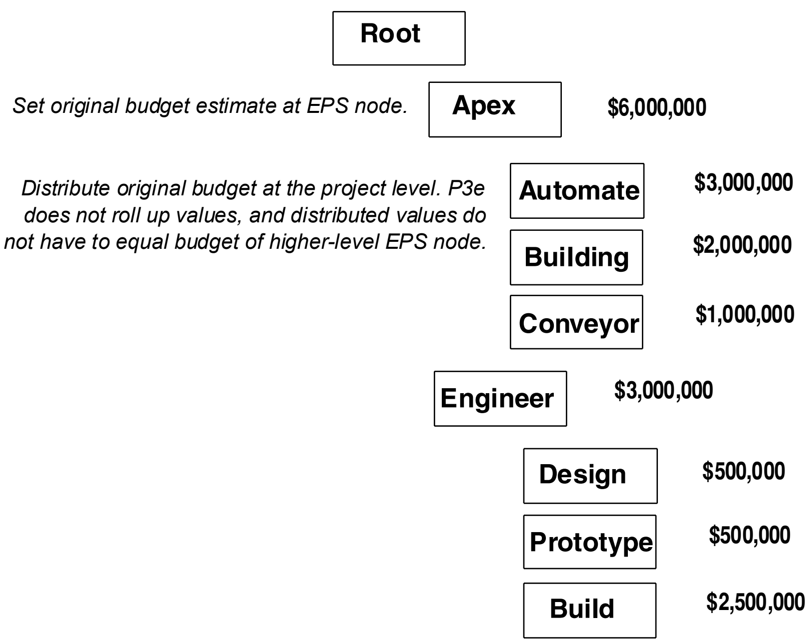
In this chapter:

Budgets consist of the total estimated effort (or quantities) necessary, and the cash flow required, to complete a project. Before a project starts, the resource/cost manager, along with the operations executive, program manager, and project manager, determine scope and budget requirements, and set these estimates. As requirements change, resource and financial support are adjusted to compensate for those changes. The individuals involved in project funding and financial support can perform top-down estimating and log changes to the original budget in the project planning stage, or after the project is underway. P3e tracks these changes, while retaining the original amounts. Read this chapter to learn how to establish an original budget, note and implement changes to it, and track monthly spending and variance at various levels in your enterprise—enterprise project structure (EPS) node, project, and work breakdown structure (WBS).

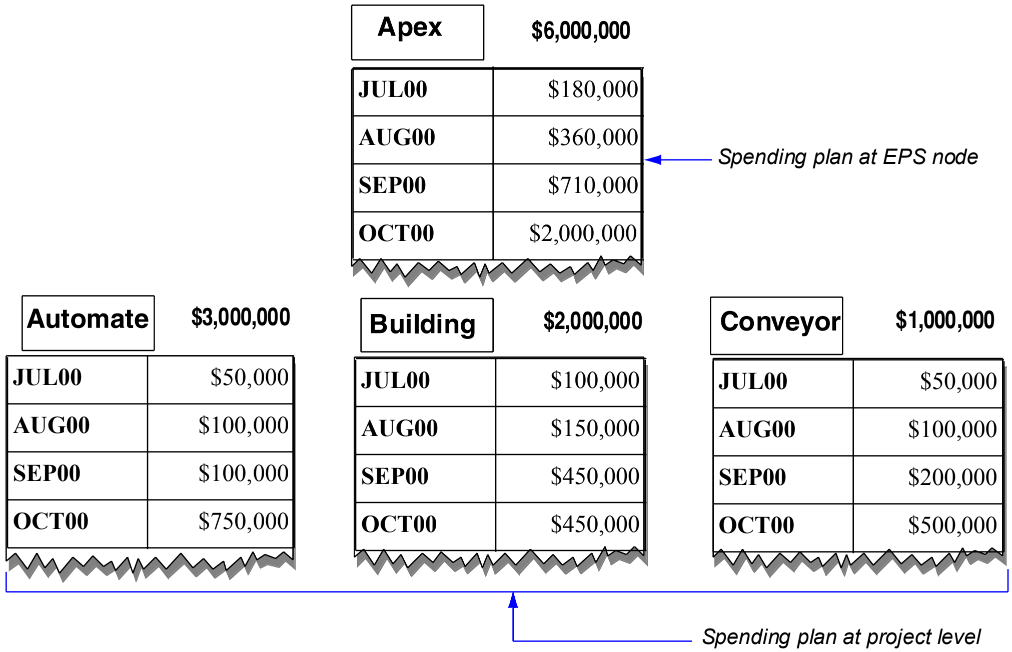
Top-Down Budgeting

The ability to perform top-down planning is key to enterprise planning and control. If an organization's projects have a budget of $5 billion over the next two years, the details probably will not be worked out until some period after the first project commences. The structure used by a company to organize its projects must be flexible enough to allow each project and group of projects to maintain its work breakdown structure (WBS) and to draw only against only against the resources normally allotted to it.

P3e facilitates a top-down budgeting approach to cost management. The resource/cost manager or other person responsible for making decisions about project launches generally establishes high-level budget estimates. These estimates are set at each EPS node in P3e. Each project manager distributes the budgets to the projects for which they are responsible in each node, as shown in the following example.



Once budget estimates are set at the EPS level, you can establish a monthly spending plan to keep track of cash flow for each node and project.



With spending plans in place, you can compare the monthly totals for the EPS node with those of all projects in the node, to ensure monthly spending does not exceed your original budget estimates.

	Spending Plan (Apex)	Spending Plan Tally (Auto+Bldg+Conv)	Variance
JUL00	$180,000	$200,000	-($20,000)
AUG00	$360,000	$350,000	-($10,000)
SEP00	$710,000	$750,000	-($40,000)
OCT00	$2,000,000	$1,700,000	$300,000

Negative variance indicates a need to reevaluate planned spending during these months.

If your projects use funding to support budgets, you can also set up a Funding Source Dictionary, which you can then use to quickly assign specific funding sources to budget items as you develop projects in P3e.

When estimates are firmly established, resource/cost managers and/or team leaders can set budget amounts and spending plans at the WBS levels for which they're responsible. Resources and budgets can then be allocated at the activity level.

Once projects are underway, you can monitor budget changes using change logs in P3e, and continue to track monthly spending as actual costs are applied.

When your projects are complete, P3e also enables you to record and maintain the benefit, or return on investment (ROI), of performing each project. This value assists the operations executive in the strategic planning process when undertaking future projects.

The remainder of this chapter discusses how to establish budgets, spending plans, funding, and track changes.

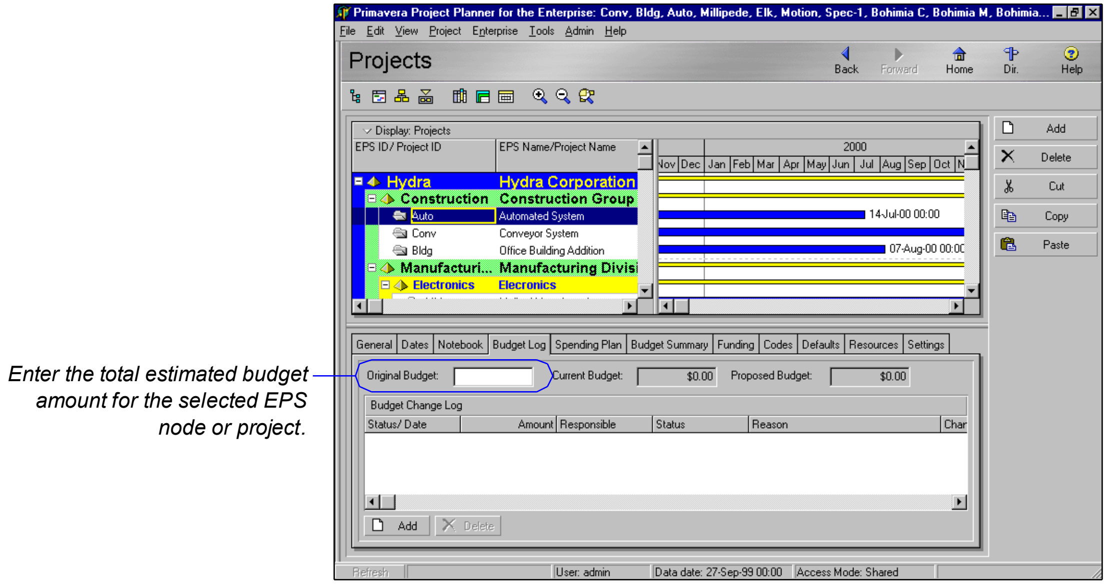
Establishing Budgets

You can establish budget estimates at the planning stage, then refine them as projects progress. Document budget changes as they occur, and then use these changes to calculate the latest budgeted amounts for the project. You can also record monthly spending of budgeted funds, track the current and undistributed variance amounts, and roll up the monthly spending plan of each project in a branch to its higher EPS nodes.

Set up the total budget for each EPS node in the hierarchy first, then enter the applicable portion of the total budgeted amount to each project in the node's branch. Once these initial total amounts are entered, you can start apportioning anticipated monthly spending amounts per project. P3e then tallies the amounts for the projects so you can keep track of the total spending plan and assess the variance between this total and the current budget. This process is ongoing through the project life cycle. Close to the completion of the project, you can better determine profitability and enter the ROI. This amount can be used as a gauge when determining whether a project of this type should be undertaken in the future.

Display Project Details by clicking the Display Options bar and choosing Show on Bottom, Project Details.

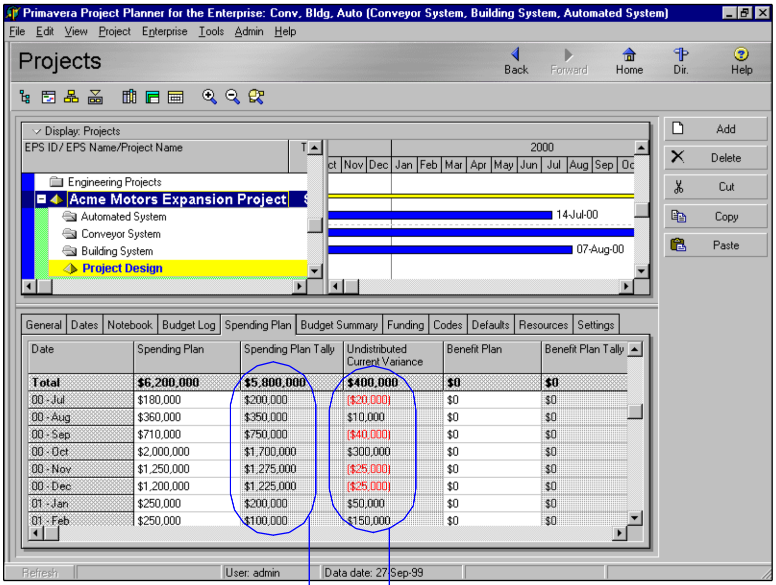
Establish budgets Choose Enterprise, Projects, to open the Projects window. (If you already set budget estimates for nodes and projects, open the WBS window to enter budgets for the WBS levels in your projects.) Click the Budget Log tab for the selected node/project (or WBS element). Enter the total budgeted amount you anticipate for this project in the Original Budget field.



After you have entered budgeted totals for a node and its projects, you can start apportioning anticipated monthly spending amounts for each of the projects in the branch. Read the next section for more information.

Establishing a Monthly Spending Plan

You can distribute the budget monthly for each EPS node and project to create a spending plan. The Spending Plan tab also totals the spending plans of lower levels of the EPS on a monthly basis so you can compare how much you distributed at a high level to how much was actually distributed at lower levels. In the following example, at the EPS node level Apex, the spending plan for 00 JUL is $180,000. The combined spending plans of Apex's projects (Auto, Conv, Bldg) is $200,000. Because this amount is $20,000 more than was planned, it appears in red ($20,000) in the Undistributed Current Variance column.



Monthly spending plan of levels beneath the EPS node selected

The difference between the EPS node's monthly spending and that of its projects' tallies.

Enter monthly spending amounts at the EPS level Click the Spending Plan tab in the Projects window for a selected EPS node or project. Enter total expenditures for each month in the Spending Plan column. The Spending Plan Tally column shows any amounts previously recorded for project spending plans.

You can also use the Spending Plan tab to establish a monthly benefit plan. This plan helps you track the financial benefit of performing the projects on a monthly basis. Enter the benefit amount, or profit return on your monthly spending, in the Benefit Plan column. P3e also tallies the benefit plans for the combined project amounts in a selected EPS node branch.

Tracking Budget Changes

As projects progress, changes in scope, resource reallocation, funding additions/withdrawals, or other factors that affect original budgeted amounts, often occur. The Budget Change log enables you to track modifications that affect the budget; this log also provides a clear indication of the who, what, when, where, and how behind the change(s).

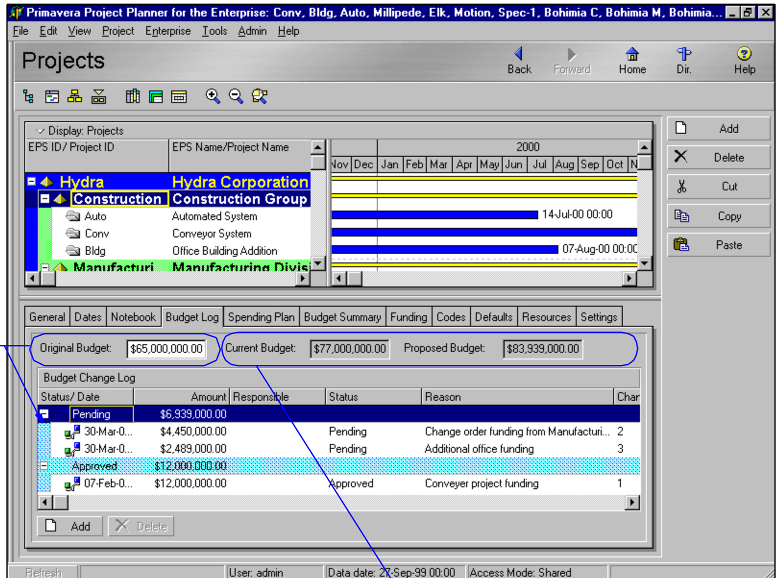
Date	Amount	Responsible	Status	Reason
10-Jul-2000	500,000	Jane Brown	Approved	Inflation
21-Jul-2000	1,000,000	Eileen Jones	Not Approved	Estimated wrong
05-Aug-2000	250,000	Frank Anderson	Pending	Unforseen Circumstances

Change amounts are not incorporated in the current budget until these amounts have an Approved status. Only authorized project participants may issue budget changes and mark them as approved. You may post a change amount as Pending; the program manager of the affected EPS node, or the project manager of the affected project, must then mark the amount as Approved or Not Approved. P3e recalculates the new budgeted amount and adjusts the current budget based on approved changes to the log:

Proposed Budget = Original Budget + Approved Budget Changes + Pending Budget Changes

Current Budget = Original Budget + Approved Budget Changes

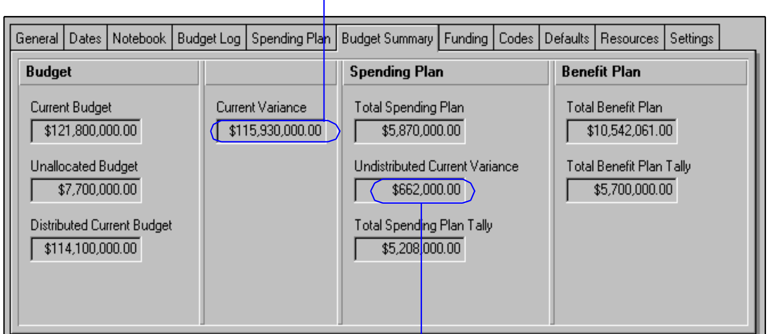
Enter the budget. As the project progresses, record any changes.



P3e calculates these fields based on the original budget and approved and pending

Click the Budget Summary tab to track budget and spending totals as projects progress and changes occur. The Budget Summary tab enables you to see the current budget, distributed current budget, and benefit plan totals so you can get an overall picture of how your projects are doing financially.

Current Budget - Total Spending Plan



Total Spending Plan - Total Spending Plan Tally

Establishing Funding

If you are working on government, capital, or other projects that are traditionally funded by sources outside or within your organization, you can set up a Funding Source Dictionary, which you can then use to quickly assign specific funding sources to budget items as you develop projects in P3e.

You can apply unlimited funding assignments to each EPS and project level.

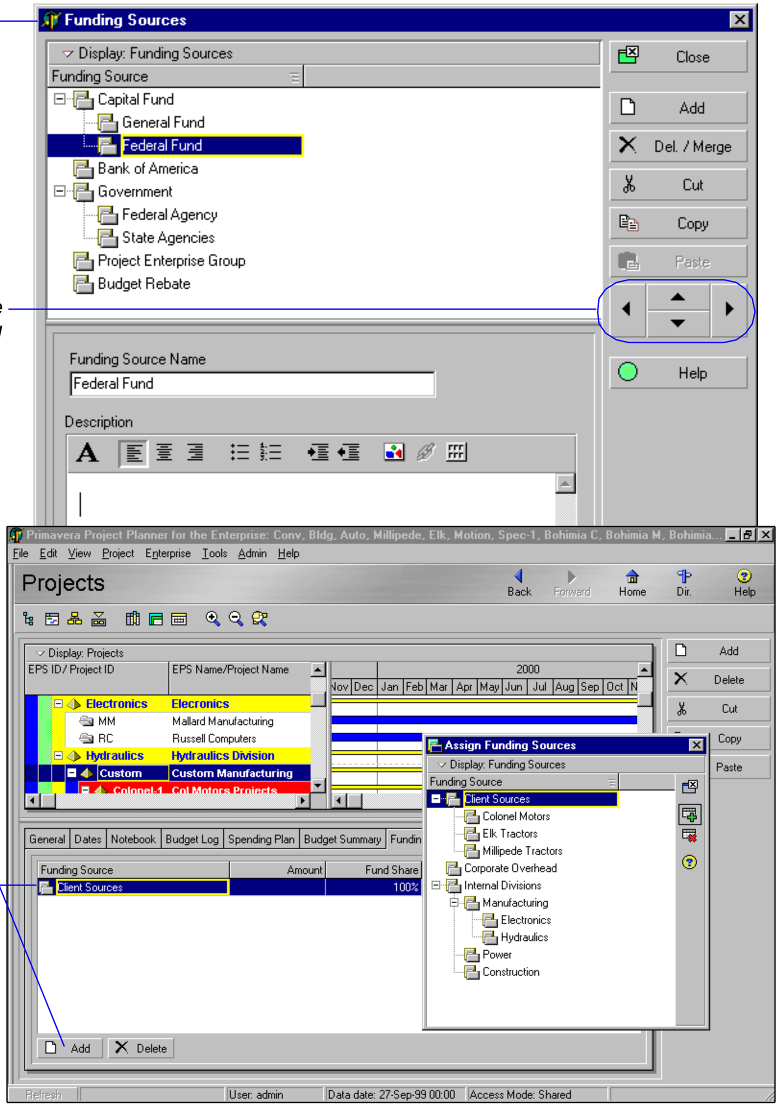
Define funding sources Choose Enterprise, Funding Sources. Select the funding source immediately above and at the same level as the fund you want to add, then click Add. You can set up the Funding Source Dictionary as a hierarchy to categorize and group similar funds, such as those affiliated with a particular agency.

Type any additional information about the fund in the Description area using HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks, then click Close.

To display your funding hierarchy as a chart, click the Display Options bar and choose Chart View.

The funds you establish are global, or available to any EPS node or project in your EPS hierarchy.

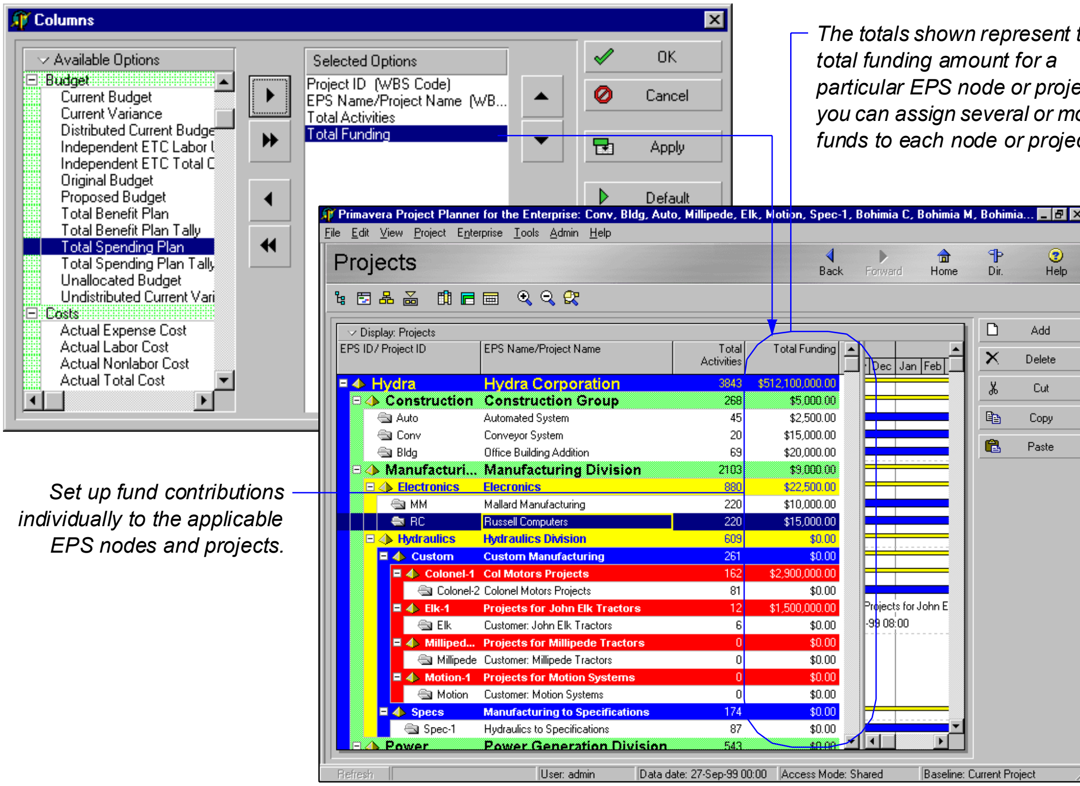
Use the arrows to change the placement of a selected fund in the hierarchy.



Specify your funding source, amount, and budget share percentage at the EPS or project level.

The fund share value is the portion of the total funded amount contributed by the funding source for the assignment. You can assign the same funding source multiple times with varying monetary amounts and share contributions for different levels of the EPS. You define both the amount and share values for the fund. Funds do not roll up; you edit them for each EPS level to allow for top-down planning. You can add a Total Funding column in the Projects window to display the sum of the funding for each project and EPS node.

The totals shown represent the total funding amount for a particular EPS node or project; you can assign several or more funds to each node or project.

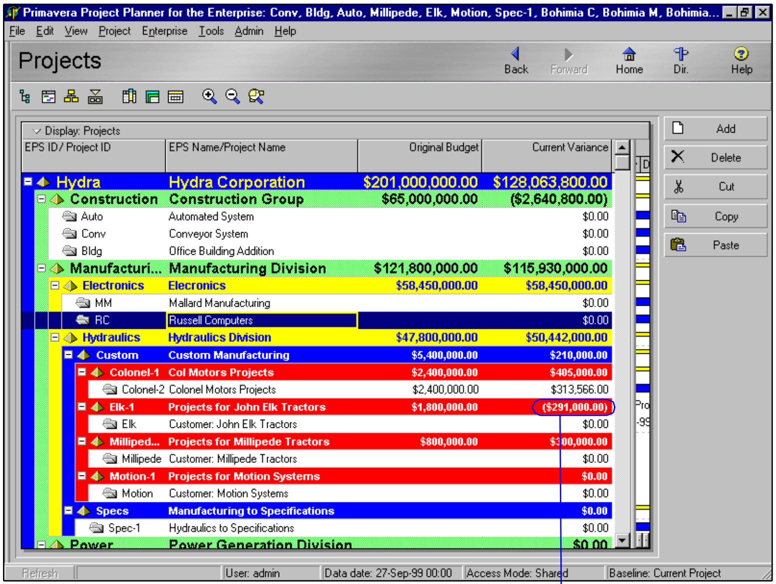


Set up fund contributions individually to the applicable EPS nodes and projects.

Tracking and Analyzing Budgets

P3e's resource and cost spreadsheets provide an overall picture of unit and cost budget distributions, along with the variance amounts resulting from current use versus original estimates at the activity level. At the EPS level, you can customize columns and produce reports to display original budget amounts per project, along with the current variance amounts. This is beneficial in the early stages of your projects when you may not have all resources and estimates in place to cover the scope and goals set forth by upper management.

Create a layout for budget and variance comparison Open the Projects window, then click the Display Options bar and choose Columns, Customize. You can select any budget-related columns from the list of choices. The following example compares the original budget amounts assigned to the projects and the current variance resulting from budget spending on those projects to date.



When current spending differs from original budget estimates, a variance results. A variance amount shown in parentheses indicates a negative variance amount for the project.

For more information about running reports in P3e, see the *Customizing Projects* chapter.

Print budget reports You can also print preformatted reports or create new reports to track budget amounts at the project, WBS, activity, and cost account levels. The following example contains a summary of current budget amounts, the actual costs to date, and the budget amount remaining per project, along with the budget amounts per activity.

11-Feb-00 11-Feb-00

EX-01 Expense Summary By Project

User's Notes:

Project Name **Finance System Upgrade**

Expense Item	Activity ID	Budgeted Cost	Actual Cost	Remaining Cost
Product manuals	A1370	$2,700.00	$0.00	$2,700.00
User training facilities	A1410	$8,000.00	$0.00	$8,000.00
Test machines - stress testing	A1280	$12,500.00	$0.00	$12,500.00
Testing software	A1250	$4,500.00	$0.00	$4,500.00
Risk Management Consulting	A1050	$12,000.00	$9,000.00	$4,500.00
Test machines - unit testing	A1220	$12,500.00	$10,000.00	$4,000.00
Network and computer hardware	A1360	$35,000.00	$0.00	$35,000.00
Subtotal		$87,200.00	$19,000.00	$71,200.00

Project Name **Project Administration**

Expense Item	Activity ID	Budgeted Cost	Actual Cost	Remaining Cost
Risk Management Consulting	A1050	$12,000.00	$9,000.00	$4,500.00

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The following report example shows earned value totals at the highest WBS level, which is equivalent to the EPS nodes and projects in P3e.

Conveyor System, Office Building Addition, Automated System, Customer: Millipede Tractors, Customer: John Elk Tractors, Customer: Motion Systems, Hydraulics to Specifications, Bohimia Nuclear Power

Project Start 19-Jul-00
Project Finish 27-Mar-01
Data Date 27-Sep-00

EV-02 Earned Value By WBS

User's Notes:

WBS Code	WBS Name	BCWS	BCWP	ACWP	BAC
Assembly	Assembly Lines	$32,256.20	$31,159.20	$36,212.05	$169,191.60
Facilities	Facilities	$9,232.00	$6,824.00	$9,864.00	$3,081,877.43
Construction	Capital Projects	$41,488.20	$37,983.20	$46,076.05	$3,251,069.03
Electronics	Elecronics	$652,019.78	$134,400.00	$148,580.00	$3,000,210.00
Hydraulics	Hydraulics Division	$9,515,088.78	$7,320,635.57	$3,271,622.35	$41,138,421.85
Manufacturing	Manufacturing Division	$10,167,108.56	$7,455,035.57	$3,420,202.35	$44,138,631.85
Diver	Diver Nuclear Power Station	$636,872.98	$435,060.00	$960,868.00	$997,560.00
Morris	Morris Nuclear Power Station	$579,312.98	$190,000.00	$919,076.00	$940,000.00
Bohimia	Bohimia Nuclear Power Station	$54,915.00	$55,025.00	$116,470.00	$298,668.33
Power	Power Generation Division	$1,271,100.95	$680,085.00	$1,996,414.00	$2,236,228.33
Hydra	Hydra Corporation	$11,479,697.72	$8,173,103.77	$5,462,692.40	$49,625,929.21

Page 1 of 1

For information about assigning and analyzing budgets at the WBS, activity, and cost account levels, see the *Reviewing Work Breakdown Structures*, *Working With Activities*, and *Working with Cost Accounts and Project Expenses* chapters, respectively.

Establishing Project Codes

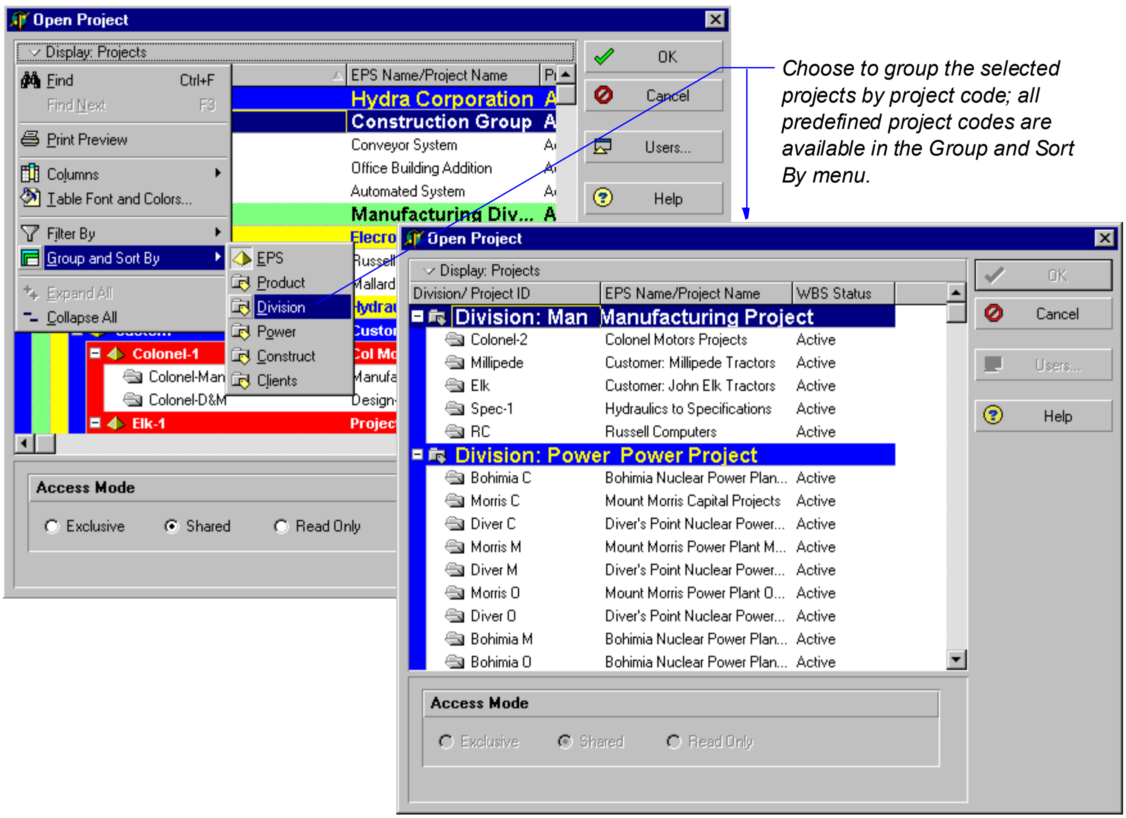
In this chapter:

You can organize the projects in the enterprise project structure (EPS) in groups according to specific categories, such as location and manager, using project codes. P3e supports an unlimited number of hierarchical project codes so you can establish as many as you need to meet the filtering, sorting, and reporting requirements for your projects. For example, use project codes to arrange projects hierarchically when your EPS contains many projects within many levels.

Read this chapter to learn how to set up project codes, assign code values to projects, and use project codes to organize your enterprise layouts.

Defining and Assigning Project Codes

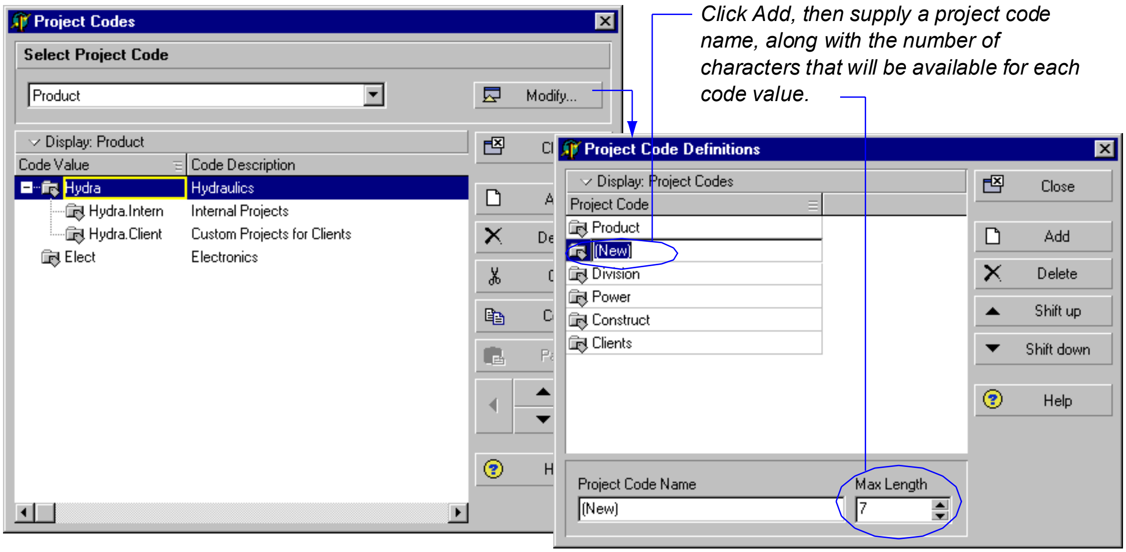
In your enterprise structure, you can use project codes to group projects and consolidate large amounts of information, and to generally distinguish one project from another. You can group by project code in the Open Project dialog box and in the Projects window, by right-clicking anywhere in the dialog box or window, choosing Group and Sort By, then selecting the project code name. All projects assigned a value for that code will be opened in the Open Project dialog box or the Projects window, grouped by their corresponding value. Any project not assigned a value for the project code is placed at the bottom of the window under a No Code group band.



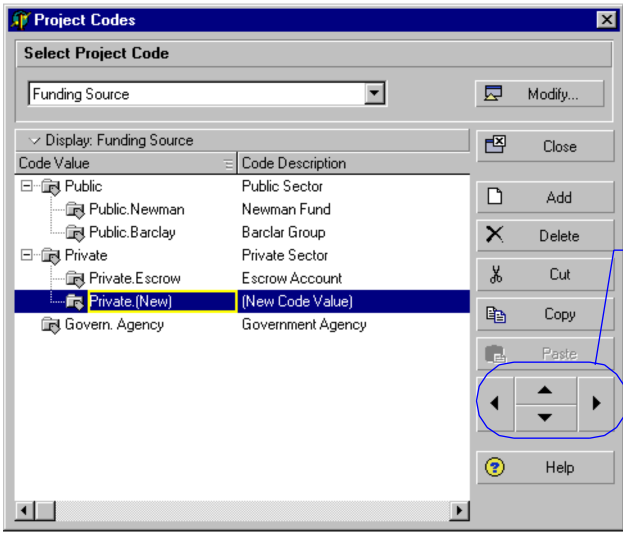
Choose to group the selected projects by project code; all predefined project codes are available in the Group and Sort By menu.

Project codes are set up in the Project Codes Dictionary, which is available to the entire enterprise. You can create values for the predefined codes provided in P3e, or you can create new project codes and values for use with your projects. Assign code values to projects using the Codes tab in Project Details.

Define project codes and values Choose Enterprise, Project Codes. Click Modify in the Project Codes dialog box, then define as many project code definitions as you need.



To add values to a project code, click Close in the Project Code Definitions dialog box. In the Project Codes dialog box, select the project code for which you want to establish values, then click Add and type the values and descriptions. To change a code value's position in the project codes hierarchy, select the code, then click the appropriate arrow button. For example, if you create a code called Funding Source, you may then want to specify code values for the different sectors from which the funding is received, such as Private, Public, and Government Agency. Within these sectors you can create values for the specific funding sources. To indent a source beneath a sector, first select the source, then click the up or down arrow buttons until it is directly below the sector. Click the right arrow button to indent the source.

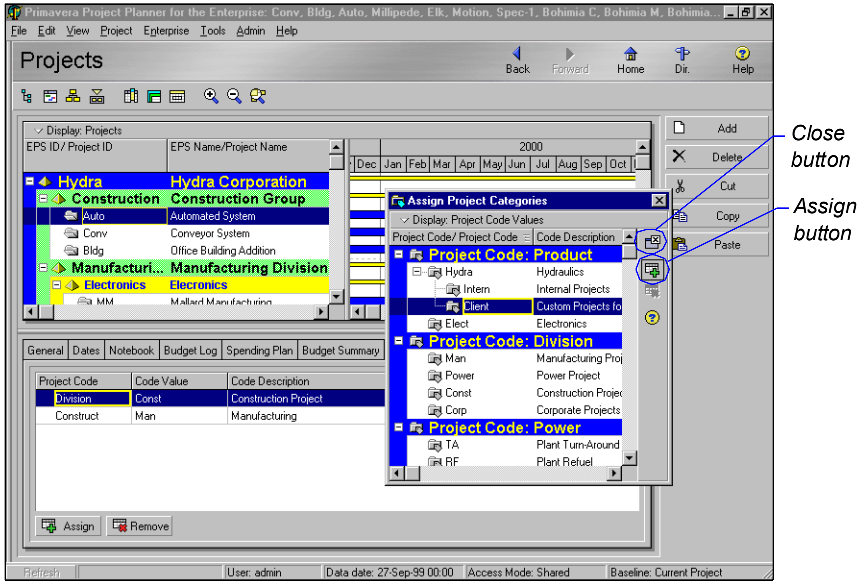


Click the arrows to move values up or down in the list, or to change a selected value's position in the hierarchy.

To see a graphical display of your project codes hierarchy, click the Display Options bar and choose Chart View. You can also modify the appearance of the table or chart using the other menu commands available from the Display Options bar.

If the Codes tab is not shown in Project Details, right-click in the Details area of the Projects window and choose Customize Project Details; select Codes from the list of available tabs, click the right-arrow button to move it to the Display Tabs column, then click OK.

Assign project code values In the Projects window, select the project for which you want to assign project code values. Display Project Details by clicking the Display Options bar and choosing Details (the box next to the command should be marked). Click the Codes tab, then click Assign. In the Assign Project Categories dialog box, click the value for the applicable code, then click the Assign button.



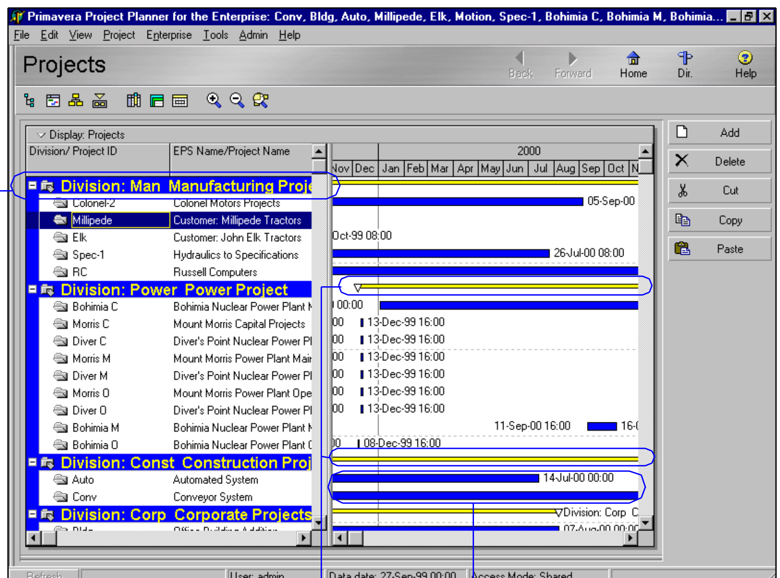
Click the Close button in the Assign Project Categories dialog box when you are finished assigning project code values to the project.

You can also assign several values at once. Press and hold the Ctrl key, then select each value you want to assign. Click the Assign button.

Grouping, Summarizing, and Filtering by Codes

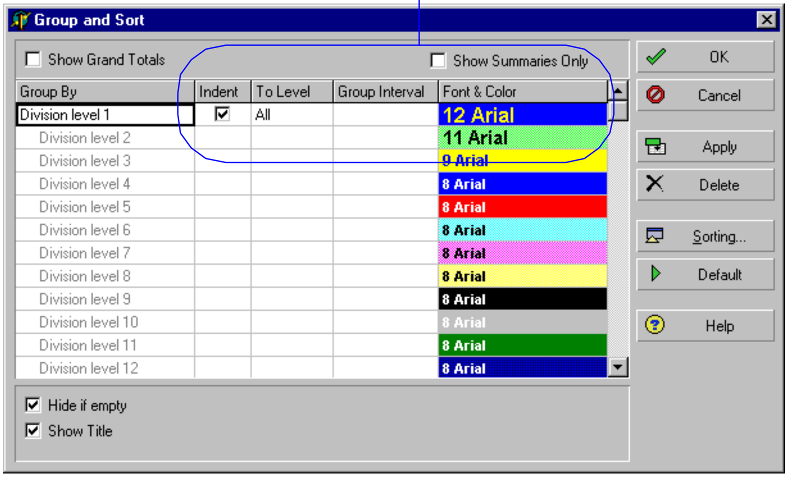
Use project codes to group projects in Activity table and Gantt chart layouts within the Projects window. Grouping enables you to focus on a particular aspect of projects, such as product line or location. In the following example, projects assigned the same division values are grouped together and identified by description bands. Current bars, which represent the early or actual start and finish dates for each project, and summary bars, which represent all projects within each group band, are included in the layout. The summary bar begins at the earliest start date of all projects that are assigned the code value and extends to the latest early finish date of all projects that are assigned the code value.

To select the bars included in the Gantt chart, click the Display Options bar, then choose Bars.



Group by project code Click the Display Options bar, then choose Group and Sort By. Choose a specific project code or choose Customize to include additional codes or other project elements in your layout. P3e creates a group band for each Group By parameter you select in the Group and Sort dialog box.

You can customize the appearance of each group band, choose whether to show summary data, indent the group band, specify the lowest level you want to include for the Group By element, and enter the time interval by which to group date-related elements.

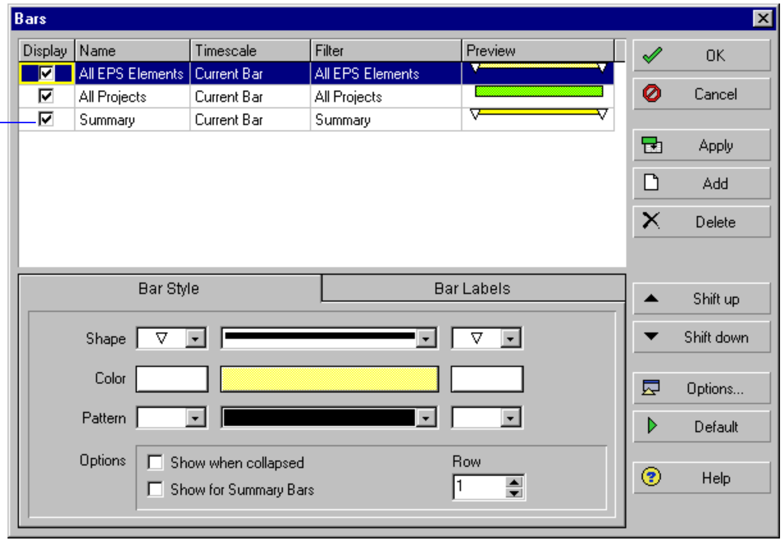


Click in the first row of the Group By column, then select the project code or other parameter by which you want to group. You can group by more than one item by adding additional rows. Mark the Indent checkbox for hierarchical items to show all levels or only levels up to the number indicated in the To Level cell. You can indent only one level per group. If you select a date Group By item, you can select the time interval in the Group Interval cell. To change the font and background color of the group bands, double-click the Font & Color cell for each item.

For more information about summarizing data, see the *Summarizing Projects* chapter in *Part 4*.

Summarize project code groups By default, P3e summarizes the data included under each group band at the group band level in the layout and shows summary bars in the Gantt chart. If the Gantt chart is not displayed, click the Display Options bar, then choose Show on Top, Gantt Chart. The summary data are current up to the date when data were last summarized in P3e.

Mark to display a summary bar for each group band in the layout. If your layout is grouped by EPS also, mark the Display checkbox for the EPS Summary bar.

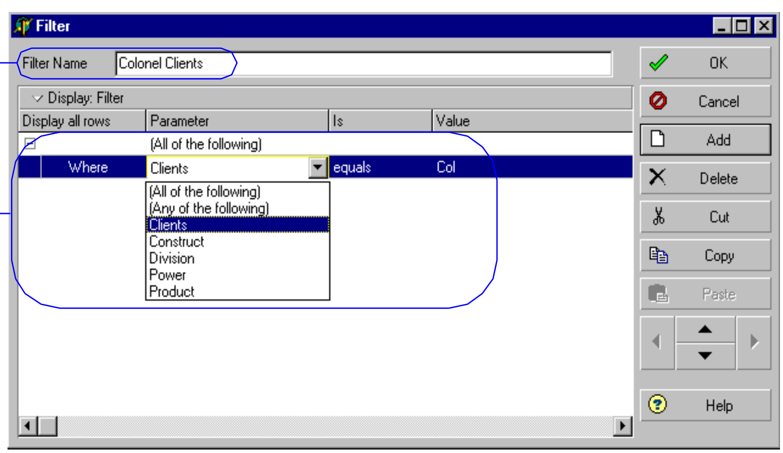


To exclude the project details and show only a summarized band, double-click the band. When a group is summarized, P3e adds a plus sign (+) before the group band name. To summarize all groups in the layout, click the Layout Options bar and choose Collapse All.

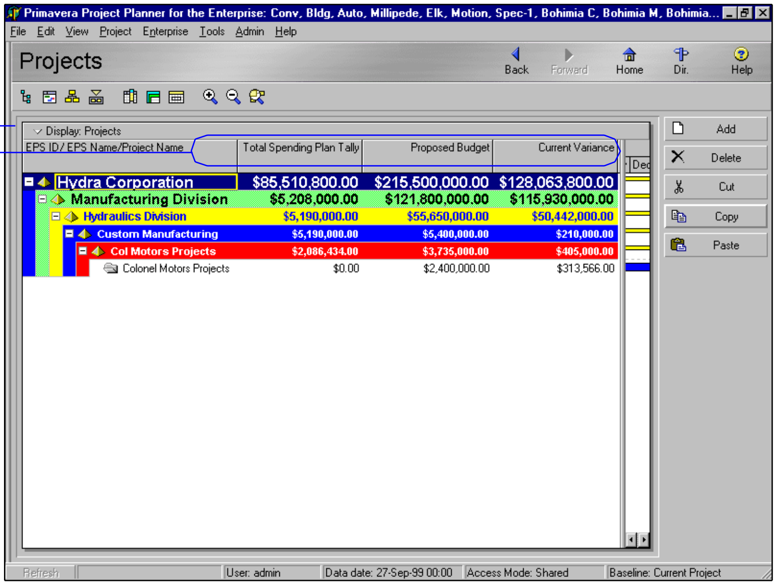
Filter by project code In P3e, you can create custom filters that use project codes to limit the projects that are included in the Projects window. For example, to review only the projects within a specific division, select the Division project code. Click the Display Options bar, then choose Filter By, Customize. Click New in the Filters dialog box to add a filter.

Identify the filter with a meaningful name.

Select the filter parameter. In this case, all projects with the project code value of Colonel for the Clients project code will be selected.



Click OK to return to the Filters dialog box. The new filter is listed under User Defined filters, and the corresponding select checkbox is marked, indicating it is active. Click Apply to see the projects selected by the filter, or click OK to apply the filter to the layout and close the dialog box.



This layout contains the projects selected by the filter. You can also display specific information for these projects by modifying column data—click the Display Options bar, then choose Columns, Customize.

Creating Calendars

In this chapter:

In P3e, you can create and assign calendars to each resource and each activity. These calendars define the number of available workhours in each calendar day. You can also specify national holidays, your organization's holidays, project-specific work/nonworkdays, and resource vacation days. P3e uses your calendar assignments for scheduling and tracking activities, and leveling resources. An activity's type determines whether the activity uses the calendar of an assigned resource or its activity calendar.

P3e enables you to link resource and project calendars to global calendars. If you make changes to a global calendar, P3e applies your changes to all resource and project calendars linked to the global calendar.

Read this chapter to learn how to add and modify calendars.

Adding Calendars

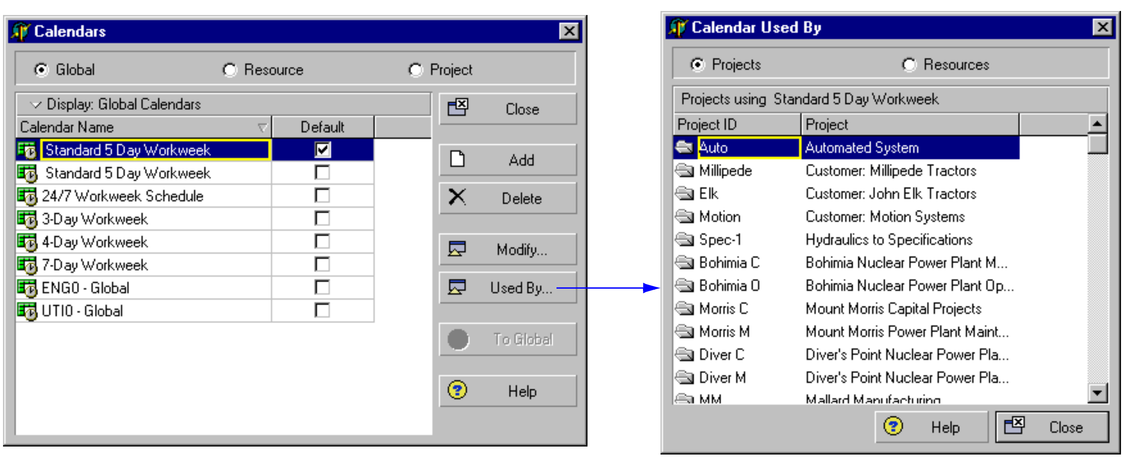
In P3e, you can establish an unlimited number of calendars to accommodate different work patterns. For example, if some activities require a five-day workweek, while others are performed part-time (such as Monday, Wednesday, and Friday) or during a specific timeperiod (such as 8:00 a.m. to 12:00 p.m.), you can create different calendars and assign the activities and resources in your projects to them.

For information about assigning global or project calendars to activities, see the *Working With Activities* chapter.

P3e supports three calendar pools: global, resource, and project. The global calendar pool contains calendars that apply to all projects in the database. The project calendar pool is a separate pool of calendars for each project in the enterprise. The resource calendar pool is a separate pool of calendars for each resource. You can assign resource or global calendars to resources, and global or project calendars to activities.

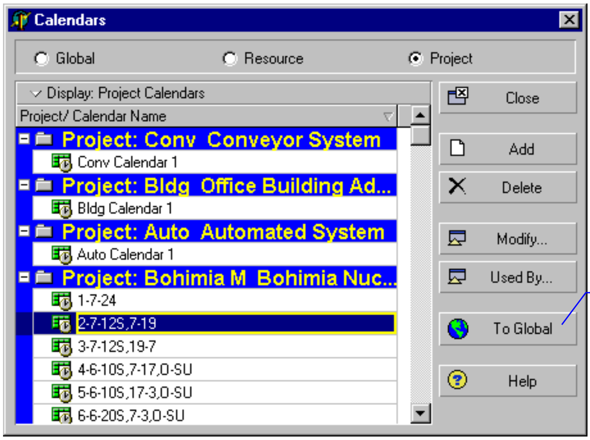
For information about modifying calendars, see the *Modifying Calendars* section in this chapter.

Create a global calendar Choose Enterprise, Calendars. Choose Global, then click Add. Select the calendar you want to copy for the new global calendar, then click the Select button. Type the new calendar's name. To make the new calendar the default global calendar for activities and resources, mark the Default checkbox. To edit the new calendar, click Modify. To view the calendar's assignments before changing it, click Used By.



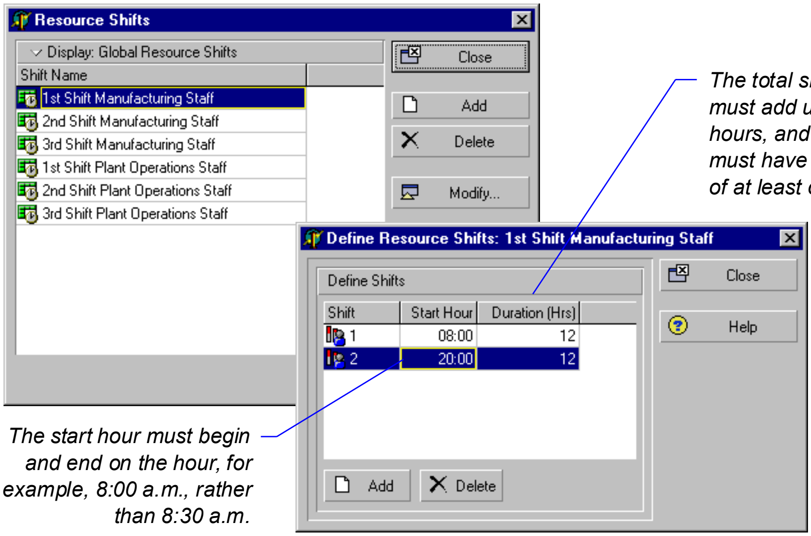
For information about assigning resource calendars to resources, see the *Defining Resources and Roles* chapter.

Create a resource or project calendar Choose Enterprise, Calendars. If you are creating a project calendar, you must first open a project. Choose Resource or Project, then click Add. Select the calendar you want to copy for the new resource or project calendar, then click the Select button. Type the new calendar's name. To edit the new calendar, click Modify. To view the calendar's assignments before changing it, click Used By.



Click to convert a resource or project calendar to a global calendar.

Define resource shifts You can globally define shifts that span specific workhours over a certain period of time, and apply one or more shifts directly to the resources to whom they apply. P3e considers the shift hours when calculating units and prices during leveling. The resource calendar is used to determine when the resource can work, and the limits for that period are determined from the shift definition on that resource. Choose Enterprise, Resource Shifts. Click Add, then type the new shift's name. To edit the new shift, click Modify.



The total shift hours must add up to 24 hours, and each shift must have a duration of at least one hour.

The start hour must begin and end on the hour, for example, 8:00 a.m., rather than 8:30 a.m.

For more information about resource shifts, see the *Defining Resources and Roles* chapter.

Modifying Calendars

Use more than one calendar when your projects contain activities that can occur on different schedules. For example, suppose you are scheduling the pouring of concrete. The concrete must cure after it is poured; curing, however, does not stop on weekends. You can create one calendar that specifies a normal Monday-through-Friday workweek and another calendar that specifies continuous worktime. If you define multiple project calendars, you must assign each activity to the specific calendar that indicates the worktime available for performing that activity. P3e schedules each activity only during the worktimes of the calendar to which it is assigned.

A calendar consists of a standard workweek and a list of exceptions.

You can also create multiple calendars to control the times when work is performed by resources throughout your organization. You can then associate different holidays/exceptions from the global calendar for each work cycle to indicate individual resource availability.

P3e enables you to define hourly calendars and display hourly data in all windows. Define the workhours for each day in the standard workweek. Use the Calendar dialog box to view and edit a global, project, or resource calendar.

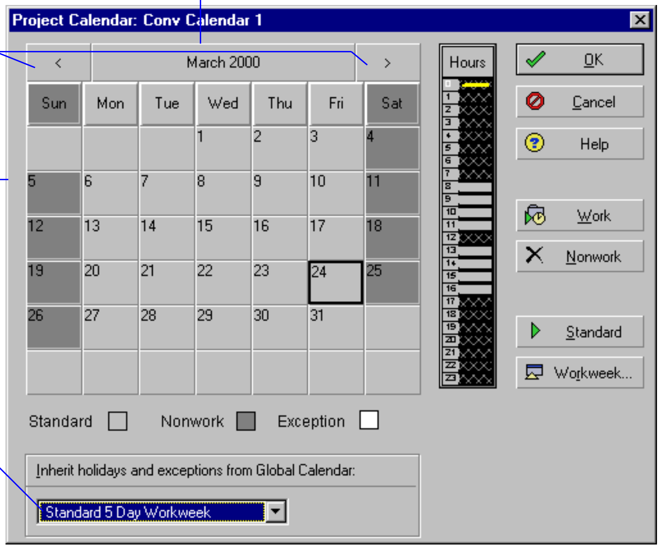
Modify calendars Choose Enterprise, Calendars; choose the calendar type (Global, Resource, or Project), select the calendar you want to modify, then click Modify.

Displays a yearly calendar so you can select a specific month to view

To change the displayed month, click the appropriate arrow.

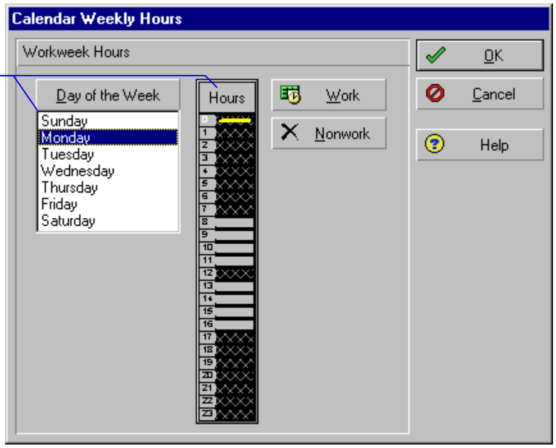
Work, nonwork, and exception times for the selected calendar are identified using different colors.

Select the global calendar on which to base a selected project or resource calendar.



Each calendar’s work/nonworktime is based on its standard workweek. Click Workweek to change the standard times.

To configure the working hours, select a single day or multiple days; the working hours are displayed in the Hours grid.



When multiple days are selected, the working hours from the first day in the selection are displayed.

You can also double-click a single hour to toggle between work and nonworktime.

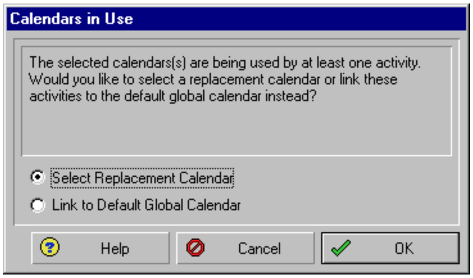
To turn worktime off, select an hour or multiple hours in the Hours grid and click Nonwork. To turn nonworktime on, select an hour or multiple hours and click Work. When multiple days are selected, all changes made to the Hours grid apply to each selected day.

The changes you make to the standard workweek are reflected in the global, resource, or project calendar dialog box. The calendar dialog box shows standard and nonworktime, and exceptions in the colors indicated in the legend. A day identified as standard has worktime and matches the work/nonwork time set up in the standard workweek dialog box; a day identified as nonwork has all 24 hours turned off for the standard workweek.

To apply the same change to all instances of a specific weekday in the displayed month, click the weekday's column label.

Apply exceptions directly in the calendar dialog box. You can click Work and Nonwork for both selected days and hours. Click Standard for a selected exception day to reset the work/nonwork time for that day of the week as established in the standard workweek dialog box.

Delete a calendar Choose Enterprise, Calendars. Choose Global, Resource, or Project, depending on the type of calendar you want to delete. Select the calendar you want to delete, then click Delete. If activities or resources are assigned to the calendar, the Calendars in Use dialog box is displayed.



To delete the calendar and link its assignments to a different calendar, choose Select Replacement Calendar, click OK, then select a replacement calendar when prompted. To delete the calendar and link its assignments to the default global calendar, choose Link to Default Global Calendar, then click OK.

Part 3

Implementing the Schedule

In this part:

Read this part to learn how to define and use activity codes to organize and filter project activities, add activities and relationships to projects, and monitor project expenses using cost accounts.

Establishing Activity Codes describes how to structure project data using activity codes so you can organize it in different ways. Read *Working with Activities* to learn how to create a schedule consisting of activities and resource assignments. Tracking activity costs and earned value throughout the project life cycle is discussed in *Working with Cost Accounts and Project Expenses*.

Establishing Activity Codes

In this chapter:

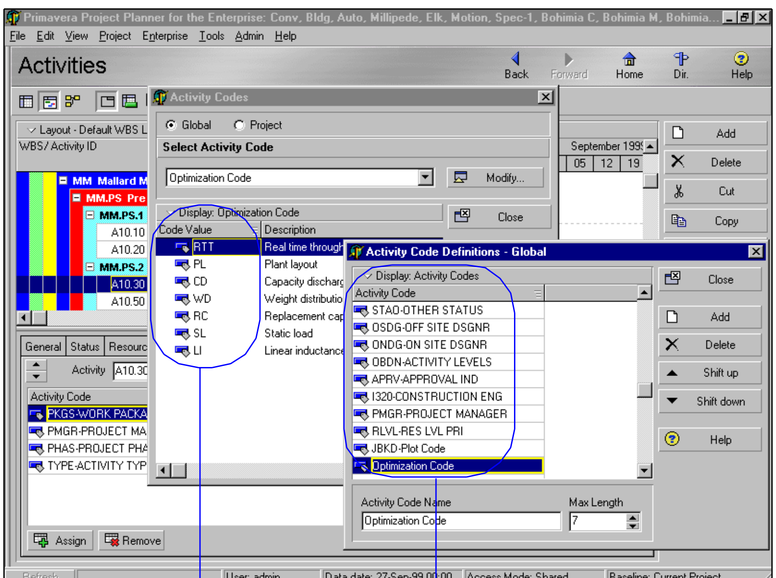
In P3e you can define a set of codes to categorize the activities in your projects. You can then sort, filter, and group activities according to the activity codes and values you assign.

This chapter describes how to use global codes to organize project activities across an enterprise project structure (EPS) according to specific categories, such as location and manager. You will also learn how to establish project activity codes to filter and organize activities based on unique, project-specific features or requirements.

Creating Activity Codes and Values

Activity codes represent broad categories of information, such as manufacturing, quality control, or location. For each code, you can define specific values that further describe that category. For example, if your organization has more than one location, you can create a Location code with values such as New York, Los Angeles, and Chicago. You can then associate activities with a specific location, such as New York. You can define an unlimited number of values for each code.

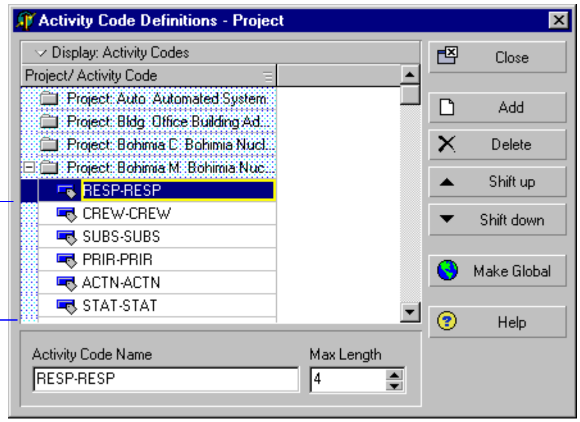
Create global activity codes Choose Enterprise, Activity Codes. Choose Global, then click Modify. Click Add, then type the name of the global activity code. Specify the maximum number of characters for the activity code's values.



Activity code values   *Activity codes*

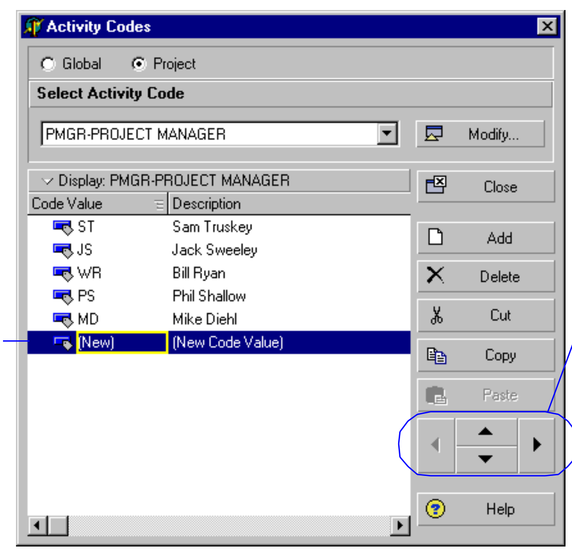
Create global activity code values Choose Enterprise, Activity Codes. Choose Global. Select the activity code for which you want to create a value, then click Add. Type the value's name and description. The value cannot exceed the maximum character length specified for the activity code.

Create project activity codes Open the project for which you want to create activity codes, then choose Enterprise, Activity Codes. Choose Project, then click Modify. Click Add, then type the name of the project activity code. Specify the maximum number of characters for the activity code's values.



Project activity codes are listed beneath the name of the open project.

Create project activity code values Select the activity code for which you want to create a value, then click Add. Type the value's name and description.



Type the new value name and description directly in these cells; the name's length cannot exceed the length specified in the Max Length field for the code.

Use these arrows to indent/outdent a value in the activity code hierarchy, and to move a selected value up or down in the list.

For instructions on assigning activity codes and values to activities, see the *Working with Activities* chapter.

Convert project activity codes and values You can convert a project activity code and its values to a global activity code with global values. Choose Enterprise, Activity Codes. Choose Project, then click Modify. Select the code you want to convert, then click Make Global. Click Yes to convert the code and its values.

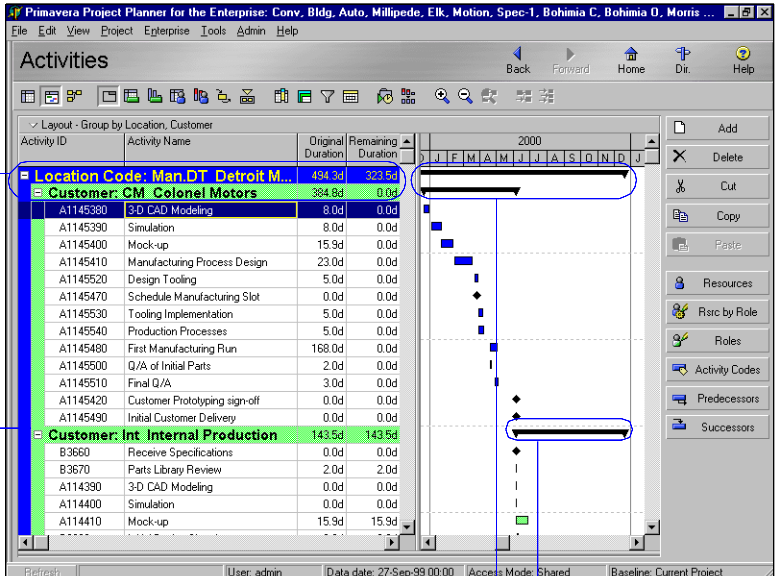
If you change activity codes or values, P3e applies your changes to all activity assignments. In addition, if you convert project activity codes to global activity codes, P3e applies these changes to all activity assignments.

Grouping and Summarizing by Codes

Use global and project activity codes to group activities and projects in Activity table, Gantt chart, and PERT layouts. Grouping enables you to focus on specific activities, such as those within a particular phase or department, or on a particular aspect of projects, such as product line or location. The following example shows activities grouped by the global activity codes Location and Customer.

Group by location and customer so the layout is easy to read.

When you summarize an activity group, the early date bar begins at the earliest start date of all activities in the code value and extends to the latest early finish date of all activities in the code value.



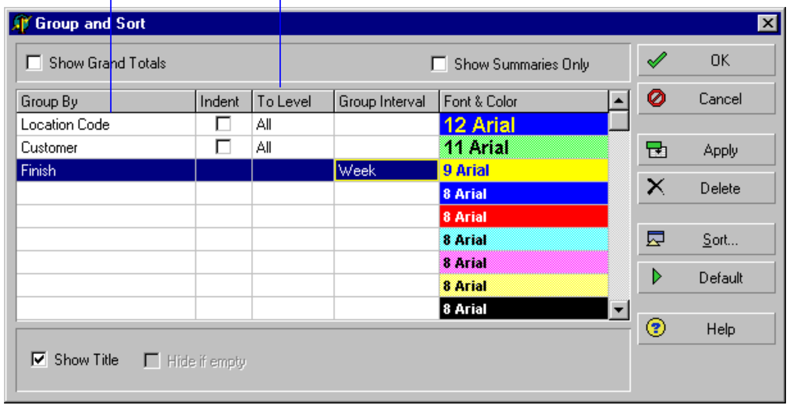
Summary bars

For more information about grouping and sorting, see the *Grouping, Sorting, and Filtering Data* chapter.

Group by activity code In the Activities window, click the Layout Options bar, then choose Group and Sort. Under Group By, click the first available line, then select the project or global activity code by which you want to group.

Group by as many fields as necessary for your layout.

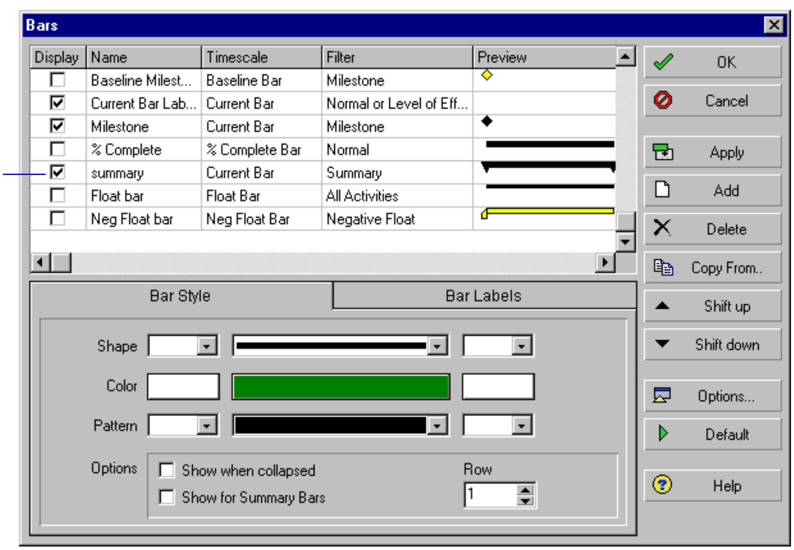
If you are grouping by a hierarchical element , you can select the lowest level you want to include in the layout.



For more information about summarizing data, see the *Summarizing Projects* chapter.

Summarize groups By default, P3e summarizes the data included under each group band at the group band level in the layout and shows summary bars in the Gantt chart. If the Gantt chart is not displayed, click the Layout Options bar, and choose Show on Top, Gantt Chart. The summary data are current up to the date when data were last summarized in P3e.

Mark to display a summary bar for each group band in the layout.



To exclude the project details and show only a summarized band, double-click the band. When a group is summarized, P3e adds a plus sign (+) before the group band name. To summarize all groups in the layout, click the Layout Options bar and choose Collapse All.

Working With Activities

In this chapter:

Activities are the fundamental work elements of a project. They are the lowest level of a work breakdown structure (WBS) and, as such, are the smallest subdivision of a project that directly concerns the project manager. If you divide activities into steps, an activity’s primary resource is typically responsible for managing and tracking the progress of the steps, while the project manager is typically responsible for managing and tracking the progress of the overall activity.

This chapter describes how to add activities and their properties in P3e.

Activities Overview

Activities represent work that must take place in a determined amount of time. Use the Activity table or PERT layouts to add activities and build your projects in P3e. Within these layouts, P3e enables you to define the following activity information:

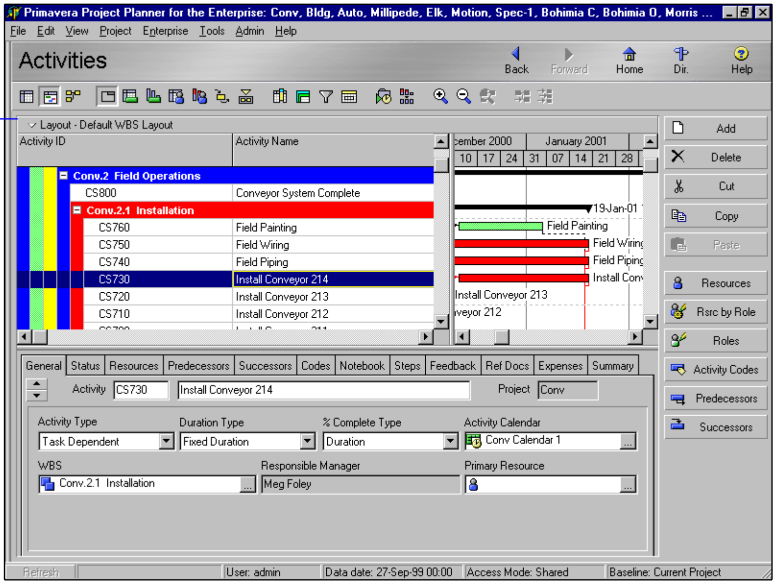
- Activity ID and name – to uniquely identify and describe the activity
- Predecessor and successor relationships – to define relationships with other activities in the same project or in different projects in the enterprise project structure (EPS)
- Activity start and finish dates
- Activity calendar
- Activity type, duration type, and percent complete type; whether an activity is a milestone; how to keep an activity's unit values, duration values, and resource units/time values synchronized; and how to calculate an activity's percent complete
- Work breakdown structure (WBS) element
- Activity codes and values – to categorize activities
- Constraints on the activity's scheduled start and finish dates
- Expenses
- Reference documents, standards, and deliverables
- Resources
- Roles – to identify skill requirements for staffing the activity
- Notes and feedback – to communicate with the resource(s) working on an activity
- Notes about performing the activity
- Steps – to divide the activity into smaller units

Adding Activities

Use the Activities window to create, view, and modify activities for the open project. The Activities window can be divided into upper and lower layouts. For example, show an Activity table, Gantt chart, Activity Usage spreadsheet, or PERT in the top layout, and/or show Activity Details, an Activity table, Gantt chart, Activity or Resource Usage spreadsheet or profile, or Trace Logic in the bottom layout. Customize the layouts to suit your requirements.

Choose Project, Activities, to display the Activities window.

To open a layout, click the Layout Options bar and choose Show on Top/Show on Bottom, then select the layout type.



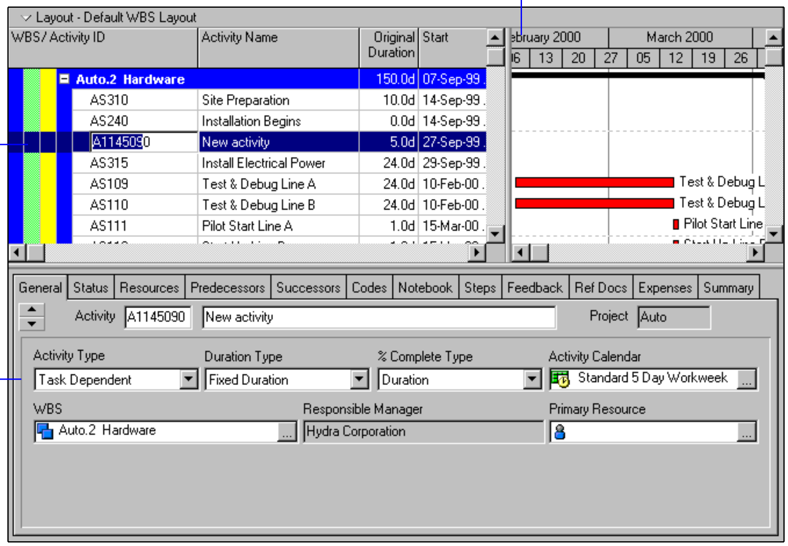
To add an activity to a project, use the Activity table and Gantt chart, or PERT. Depending on your user preferences, the New Activity Wizard may be started to help you add an activity.

Add activities in the Activity table Select the activity immediately above where you want to add the new activity, then click Add. To add an activity to a specific group in the Activity table, you can also select a group row and then click Add.

Include the Gantt chart to see a timescaled version of your schedule as you add activities.

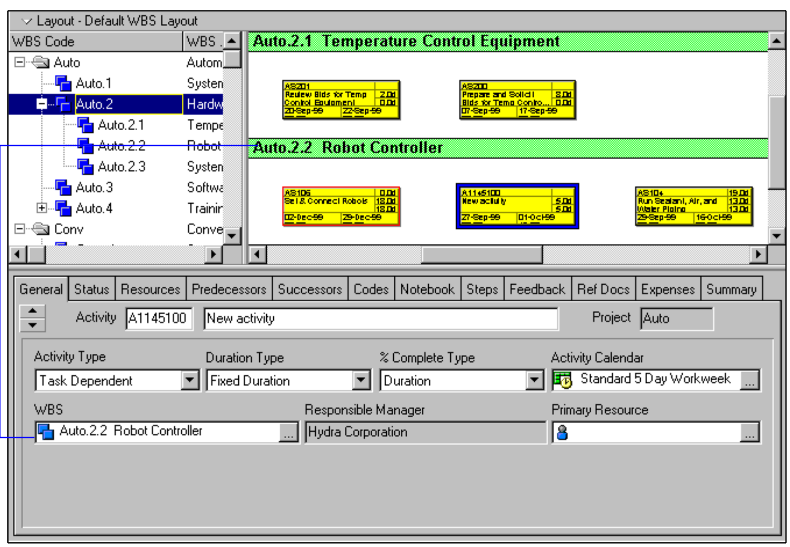
Type information directly in the column cells for the new activity...

...or use Activity Details to complete activity information.



Add activities in PERT In PERT, select the group band or an activity box within the group band into which you want to add the new activity, then click Add.

The new activity was added to this second-level WBS group band.



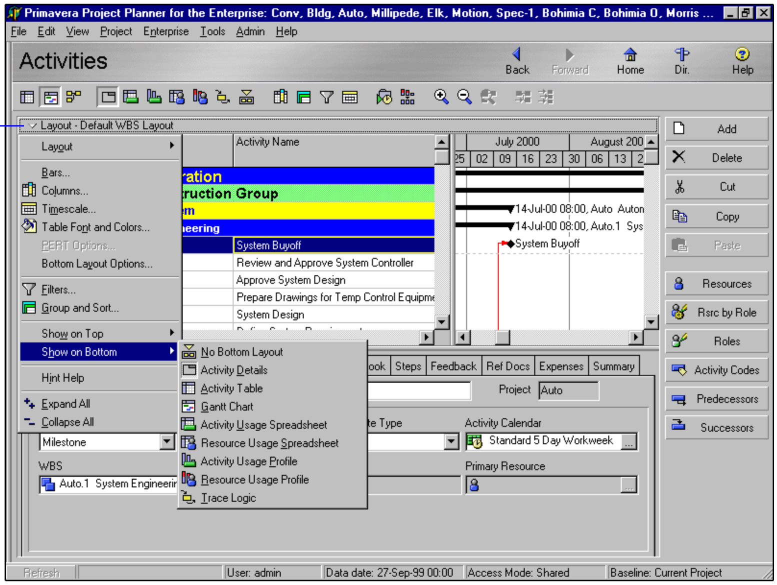
If no groups have been set up in PERT, the activity will be added to the bottom of the layout.

Defining General Activity Information

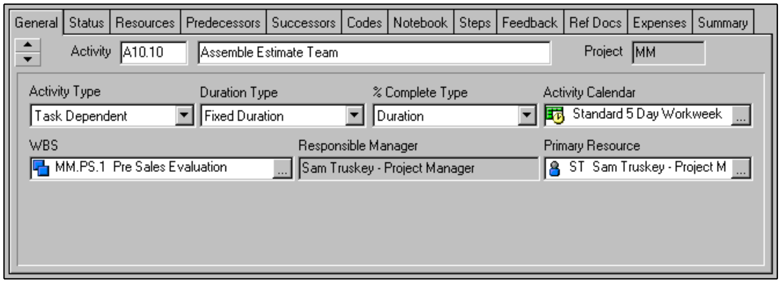
Use the General tab to define general information for the selected activity, including duration type, WBS assignment, primary resource, activity type, and activity calendar.

In the Activities window, select the activity whose general information you want to define. Click the Layout Options bar, then choose Show on Bottom, Activity Details; click the General tab.

Layout Options bar



To specify which Activity Details tabs you want to display and their order, click the Layout Options bar, then choose Bottom Layout Options.



Activity type Select the activity type according to the activity's function in the project and the calendar that should be used for the activity during scheduling.

- To indicate that the activity's resources are scheduled according to the activity calendar, select Task Dependent.
- To indicate that each of the activity's resources are scheduled according to the resource's own calendar, select Resource Dependent.
- To indicate that the activity's duration is dependent on its predecessor and/or successor activities, select Level of Effort (LOE). LOE activities do not have constraints and are considered to be ongoing; examples include project management tasks, reviews, and meetings. P3e does not include Level of Effort activities when leveling resources.

All finish to start and start to start predecessors and start to finish and start to start successors drive the start date of the LOE activity; all finish to finish and start to finish predecessors and finish to start and finish to finish successors drive the finish date of the LOE activity.

- To indicate that the activity marks the beginning or end of a major stage in the project, select Milestone. Milestones do not have time-based costs or resource assignments. P3e does not recognize durations for milestone activities.

Duration type Select the duration type based on whether resources, the schedule, or costs are most important.

- To indicate that the activity has fixed resource availability, select Fixed Units/Time. Choose this option when you are planning based on resource assignments and resource availability is the limiting factor.
- To indicate that the activity's duration is not subject to change, regardless of the number of resources assigned to the activity, select Fixed Duration. Choose this option when the schedule is the limiting factor. You would enter an original duration for each activity, rather than planned labor units.
- To indicate that the number of units of the activity is not subject to change, select Fixed Units. Use this type when you are planning based on work effort or have fixed costs. You would enter planned labor units (on nonlabor) rather than original duration.

For more information on the percent complete type, see *Part 4: Updating and Managing the Schedule*.

Percent complete type P3e can calculate an activity's percent complete according to activity duration, activity units, or a physical percent complete that you enter for each activity. You must define a percent complete type for each activity.

- To specify that the activity's percent complete be calculated from the actual and remaining duration, select Duration.
- To indicate that the activity's percent complete will be entered by the user for this activity, select Physical.
- To specify that the activity's percent complete be calculated from the actual and remaining units, select Units.

Activity calendar This field displays the selected activity's calendar. Click the Browse button to select a new calendar.

WBS Click the Browse button to assign a new WBS element to the selected activity.

Responsible manager This field displays the name of the responsible manager (in the OBS) assigned to the selected activity's WBS element.

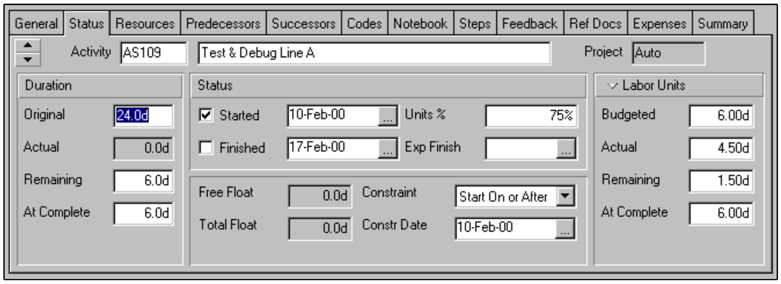
Primary resource This field displays the name of the selected activity's primary resource. The primary resource is the person responsible for the overall work on the activity and for updating activity status. Click the Browse button to select a new primary resource.

Defining Schedule Information

Use the Activity Details Status tab to view and edit detailed schedule information for the selected activity, including actual start and finish dates, free float, total float, constraints, and duration. You can also view and edit the activity's labor and nonlabor unit values.

P3e automatically recalculates the time value and period you enter according to the project's calendar and the standard timeperiod defined by your network/database administrator. To view the available timeperiod abbreviations, choose Admin, Admin Preferences, then click the Time Periods tab. You must have appropriate access rights to edit Admin Preferences.

In the Activities window, select the activity whose schedule information you want to define. Click the Layout Options bar, then choose Show on Bottom, Activity Details; click the Status tab.



Duration You would update the Duration fields when you are setting the duration or updating the activity as a whole. (Most likely, the activity type will be Task Dependent.)

For more information on updating the schedule, see *Part 4: Updating and Managing the Schedule*.

- To enter the original duration for the activity, in the Original field enter the expected number of workperiods required to complete the selected activity.
- To enter the remaining duration for the activity, in the Remaining field enter the remaining number of workperiods needed to complete the selected activity. If the selected activity is in progress, type a new number immediately followed by the timeperiod abbreviation.

Use the General tab of the Admin Preferences dialog box to specify the default duration for activities in all projects. Choose Admin, Admin Preferences, then click the General tab.

- To enter a new at completion estimate, in the At Complete field enter an estimate of the duration at completion time for the selected activity (At Complete Duration = Actual Duration + Remaining Duration). If the selected activity is in progress, type a new at completion estimate.

Status Once an activity is underway, update its start and finish dates and other status information.

- To enter the activity's planned start date, click the Browse button in the Started field, then select a date. If the activity has actually started, mark the Started checkbox, then specify the actual start date in the Started field.
- To enter the activity's planned finish date, click the Browse button in the Finished field, then select a date. If the activity is now complete, mark the Finished checkbox, then specify the actual finish date in the Finished field.

If the planned date you enter differs from its scheduled date, you are prompted to apply a constraint to hold the activity in place. If you do not constrain the activity, your dates are overwritten when a schedule is calculated.

The % field name changes depending on the percent complete type set on the Activity Details General tab.

- If the selected activity's percent complete type is set to Duration, the duration complete percent is calculated from the actual and remaining durations. If the selected activity's percent complete type is set to Units, the Units % field displays the unit complete percent as calculated from the actual and remaining units. If the selected activity's percent complete type is set to Physical, you can enter its physical complete percent in the Physical % field.

To edit the Physical % field, the activity must have started .

- If the selected activity has started, the Exp Finish field displays the date the activity is expected to end. (Only the primary resource can edit this date in Progress Reporter.) Anyone who has access to the project can edit this date in P3e. If the primary resource marks the activity as finished in Progress Reporter, the Review Status and Review Finish fields are displayed in P3e.

The Review Status and Review Finish fields are displayed only when the Primary Resources Can Mark Activities as 'Completed' checkbox is cleared in the open project's Project Details Resources tab.

- Free float is the amount of time the selected activity can be delayed, without delaying the immediate successor activities.
- Total float is the amount of time the selected activity can be delayed, without delaying the project's finish date.
- The selected activity's constraint type can be start on, start on or before, start on or after, finish on, finish on or before, finish on or after, as late as possible, mandatory start, or mandatory finish. You can select a new type. Use constraints when activities must start or finish at a specific time or date. P3e uses date constraints only when they create a tighter schedule. For example, an imposed start on date of December 1 will not affect a schedule-determined early start date of December 15. Conversely, if an imposed start on or before date is set to December 30, P3e schedules an activity whose early start is December 15 to the imposed start date.
- The Constr Date field displays the selected activity's constraint date. Click the Browse button to select a new date.

You can enter a constraint date only after you select a constraint type.

The Labor Units amounts in the Status tab total the amounts for all resources assigned in the Resources tab.

Labor units Click the Labor Units Options bar and select Labor or Nonlabor units or cost. You would most likely modify these fields when you assign resources to the activity.

- The budgeted amount is the expected number of labor or nonlabor units or cost the selected activity's resources will use.
- The actual amount is the actual number of labor or nonlabor units or cost the selected activity's resources have used. If the selected activity has started, type a new actual value.
- The remaining amount is the remaining number of labor or nonlabor units or cost the selected activity's resources will use. If the selected activity is in progress, type a new remaining value.
- The at complete amount is an estimate of the labor or nonlabor units or cost at completion time for the selected activity's resources, (At Complete Units/Cost = Actual Units/Cost + Remaining Units/Cost). If the selected activity is in progress, type a new at complete estimate.

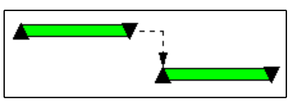
Establishing Relationships

Create relationships between activities to indicate whether an activity can begin only after other activities start or finish. Once you assign relationships, schedule the project for P3e to calculate early and late dates for each activity.

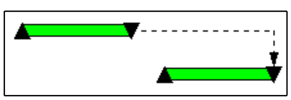
Establish relationships between activities in the same project, or link projects by creating relationships between activities in different projects within the EPS. You can define relationships to activities in any other project (not including what-if/inactive projects), even if the project is not opened in the current display.

P3e provides several methods for assigning relationships. Use PERT to visualize the flow of logic as you link activities, or use the Gantt chart to view relationships according to time. You can also use the Predecessors and Successors tabs in Activity Details to assign relationships to activities in the same project or in other projects in the EPS.

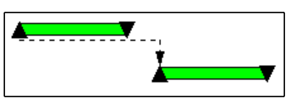
Relationship types and lag You can define the following four types of relationships. Typically, you define relationships from the predecessor to the successor activity.



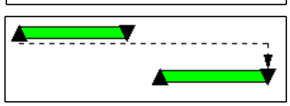
Finish to start. The successor activity can begin only when the current activity completes.



Finish to finish. The finish of the successor activity depends on the finish of the current activity.



Start to start. The start of the successor activity depends on the start of the current activity.



Start to finish. The successor activity cannot finish until the current activity starts.

When a successor activity cannot start or finish as soon as its predecessor starts or finishes, you can define a lag time for the relationship. Lag is the number of time units from the start or finish of an activity to the start or finish of its successor. Lag can be a positive or negative value. For example, a start to start relationship with a three-day lag indicates that the successor activity can start three days after the start of its predecessor.

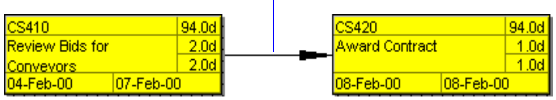
P3e interprets lag times according to the successor activity's calendar. Consider two activities that have a start to start relationship with a two-day lag. If the successor activity uses a seven-day workweek and finishes on a Friday, P3e schedules the two-day lag on Saturday and Sunday (workdays for the successor), even if those days are nonworkdays for the predecessor; P3e then schedules the predecessor activity to start on Monday.

View relationships in the Gantt chart To assign relationships in the Gantt chart, make sure relationships are displayed onscreen. Click the Layout Options bar, then choose Bars. Click Options in the Bars dialog box. In the Bar Chart Options dialog box, mark the Show Relationships checkbox, then click OK.

While you are dragging the relationship line between two activities, P3e displays a hint window that indicates the type of relationship that will be created when you release the mouse button.

Create relationships in the Gantt chart or PERT Drag the mouse between any two activities that you want to connect. Point to the left or right of the predecessor activity and drag the mouse to the left or right of the successor activity. The mouse pointer changes to a as you define relationships.

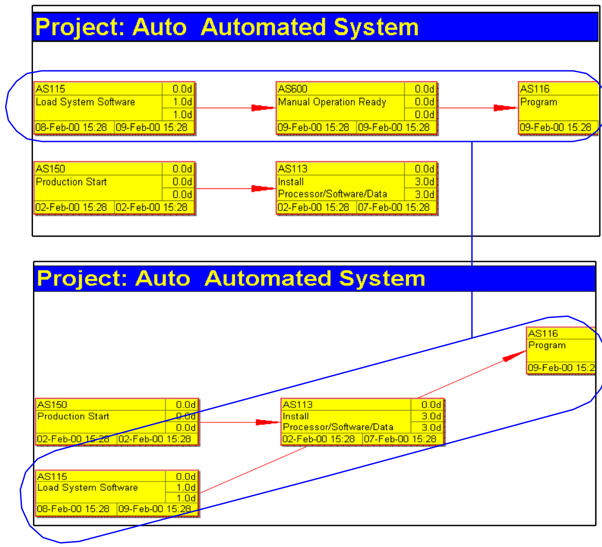
Drag the mouse from the end of activity CS410 to the start of CS420 to define a finish to start relationship.



To modify or delete a relationship, double-click the relationship line.

Dissolving Activities

To maintain relationships when deleting activities, choose Edit, Dissolve, in the Activities window. Dissolving deletes an activity and joins its predecessor and successor activities with a finish to start relationship. The selected activity to be dissolved must have a predecessor and successor.

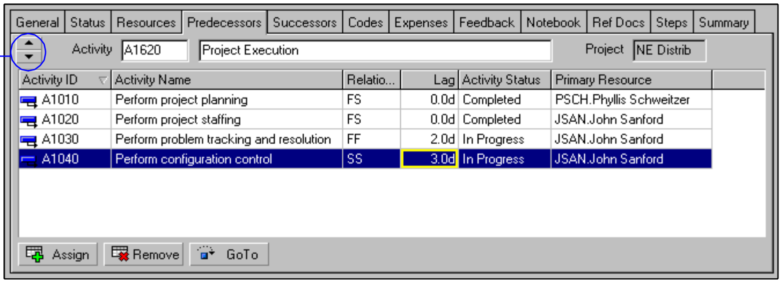


This sequence of activities can be completed with just two activities. Dissolve activity AS600. P3e automatically joins activity AS600's predecessor and successor with a finish to start relationship.

To assign a relationship between projects, click the Display Options bar in the Assign Predecessors/ Assign Successors dialog box, then choose Select Project. Select activities to define relationships the same way as you would from the same project.

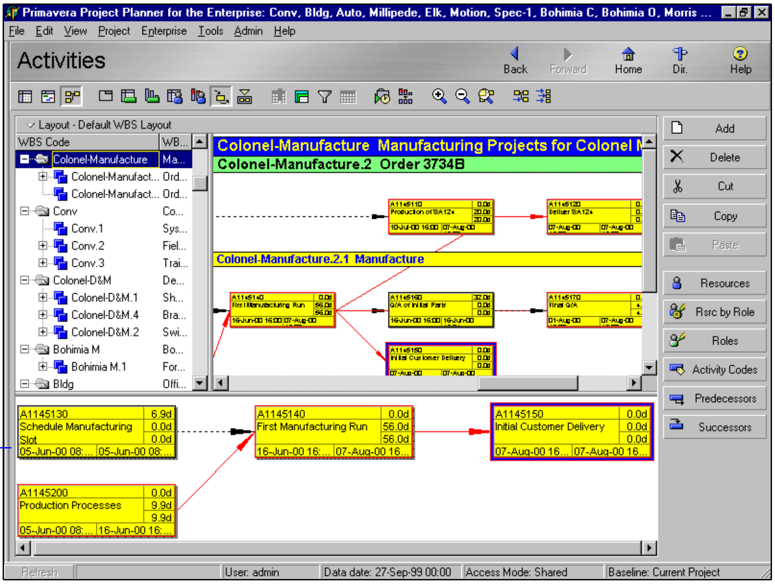
Assign relationships using Activity Details In the Activities window, select the activity to which you want to add a predecessor or successor relationship. Display Activity Details by clicking the Layout Options bar and choosing Show on Bottom, Activity Details, then click the Predecessors or Successors tab. Click Assign. Select the predecessor or successor activity you want to assign, then click the Assign button. Double-click the Relationship Type field, then select a relationship type. Double-click the Lag field, then type the relationship's lag time value.

Click the arrows to move from one activity to the next activity in the display.



Trace logic P3e provides a separate Trace Logic layout so you can examine a path while still viewing the entire project. Click the Layout Options bar and choose Show on Bottom, Trace Logic. In the Gantt chart or PERT upper layout, select the activity from which you want to begin tracing logic.

To move through the chain of activities, click a predecessor or successor of the selected activity. To modify the number of predecessor/successor levels, click the Layout Options bar and choose Bottom Layout Options.



This Trace Logic layout shows two levels for both predecessors and successors.

Displaying Activity Details for Assignments

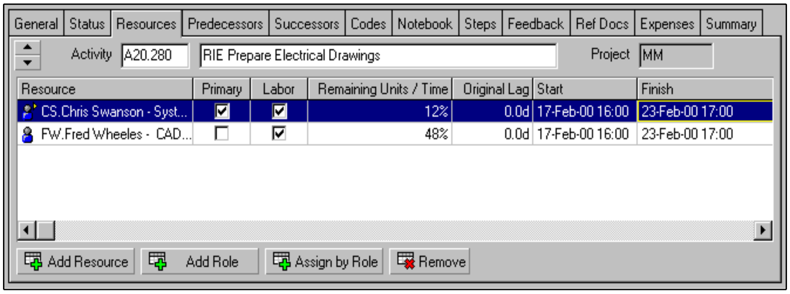
Display the following Activity Details tabs so you can assign additional project information:

- **Resources**, which include the personnel and equipment that perform work on activities across all projects. You can also assign and remove project personnel job titles or skills, known as roles in P3e.
- **Codes**, which are used to categorize activities according to your organizational and project needs.
- **Notebooks**, which provide additional information that further describes the activity according to specific categories of information.
- **Steps**, which divide activities into smaller units. You can apply a weight to each step, which can be linked to the activity's physical percent complete for the completed steps.
- **Feedback**, which allows you to exchange notes with an activity's primary resource to and from Progress Reporter.
- **Ref docs**, which enable you to catalog and track all project-related reference documents and deliverables.
- **Expenses**, which are one-time expenditures for nonreusable items. You can associate predefined cost accounts with expenses to categorize them.
- **Summary**, which displays detailed cost and unit information for the selected activity.

Modify Activity Details tabs In the Activities window, click the Layout Options bar, then choose Show on Bottom, Activity Details. Click the Layout Options bar, then choose Bottom Layout Options. In the Available Tabs column, click the tab that you want to display, then click the right arrow button. To shift the tab to the left in the Activity Details display, select the tab name in the Display Tabs column and click the up arrow button; to shift the tab to the right in the display, click the down arrow button.

Assigning Resources and Roles

In the Activities window, select the activity to which you want to assign a resource or role. Click the Resources tab in Activity Details.



For information about establishing resources and roles for your projects, see the *Defining Resources and Roles* chapter.

Click Add Resource to assign a resource to the selected activity; click Add Role to assign a role to the selected activity. Select the resource or role you want to assign. To assign multiple resources or roles, hold down the Ctrl key, then click each resource/role you want to assign. Click the Select button, then click the Close button.

You can customize the Resources tab columns to include other information for resources and roles. Right-click in the Columns area of the Resources tab, then choose Customize Resource Columns.

To define detailed information, double-click each appropriate cell and enter the resource's or role's information for the selected activity. To replace a resource or role assigned to the activity, select the resource or role you want to replace, click Add Resource or Add Role, then click the Replace button. Select the new resource or role with which you want to replace the existing resource/role, then click the Close button.

Recalculating Costs/Units for Assignments

If you want P3e to calculate costs from the units indicated or to recalculate units based on actual cost, include the Cost Quantity Linked column in Activity Details. If you mark the assignment's checkbox for the Cost Quantity Linked column, P3e notifies you that costs will be recalculated. If no progress has occurred for the activity, the Budgeted Cost/Units, Remaining Cost/Units, and At Completion Cost/Units are equal. When you apply an actual start to the activity, and record an actual quantity value or an actual cost value for the resource assignment, the Budgeted Cost/Units value is retained and the Remaining and At Complete Costs/Units are recalculated automatically.

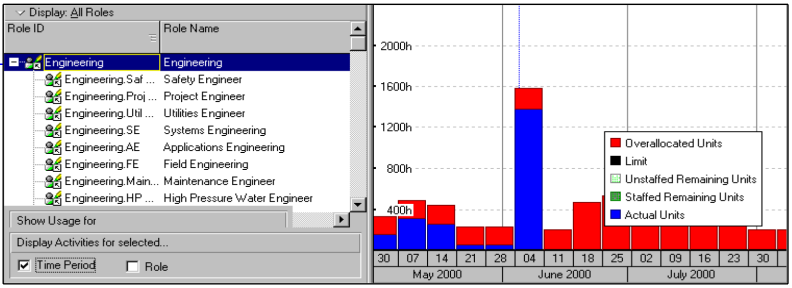
Roles with specific skill sets can be assigned resources to enable schedule and cost planning until specific resources are identified. You can later replace the role with the correct resource, based on the proficiency requirements established for the role.

To remove a role assigned to an activity, the activity must have a resource assignment. In the Resources tab of Activity Details, double-click the role cell for the role you want to remove. (Add the Role column if it is not included in the tab.) Click the Clear button in the Select Role dialog box.

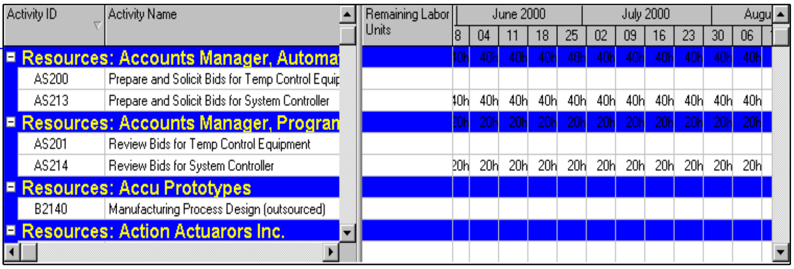
Assign resources to activities by role At least one role must be assigned to activities to assign resources by role. Click Assign by Role; the Assign Resources by Role dialog box lists the roles assigned to the selected activity. The resources who can fulfill each role are listed below it. Select the resource(s) you want to assign. Click the Select button, then click the Close button.

Once you assign a resource or role and specify the budgeted units anticipated for its use on activities, you can use activity or resource spreadsheets and profiles to track its use as the project progresses.

To analyze role use per time-period or by selected role, include a role usage profile in the bottom portion of your layout.



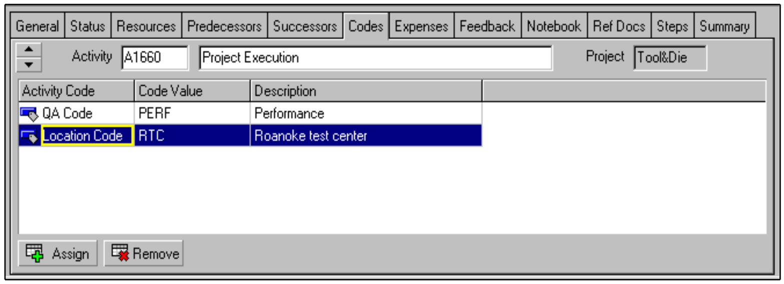
This activity usage spread-sheet is organized by resource, so you can see the weekly spread of resource use each month over the course of each activity's duration.



Assigning Activity Codes and Adding Expenses

In the Activities window, select the activity to which you want to assign a code and value. Click the Codes tab in Activity Details.

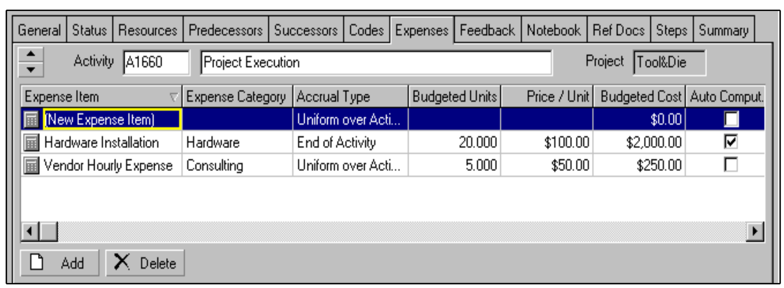
For information about establishing activity codes and values, see the *Establishing Activity Codes* chapter.



Click Assign. Select the activity code value you want to assign. To assign multiple codes and values, hold down the Ctrl key, then click each code value you want to assign. Click the Select button, then click the Close button.

You can customize the columns to include other information for the expense assignments. Right-click in the Columns area of the Expenses tab and choose Customize Expense Columns.

Add expenses to activities In the Activities window, select the activity to which you want to add an expense. Click the Expenses tab in Activity Details.

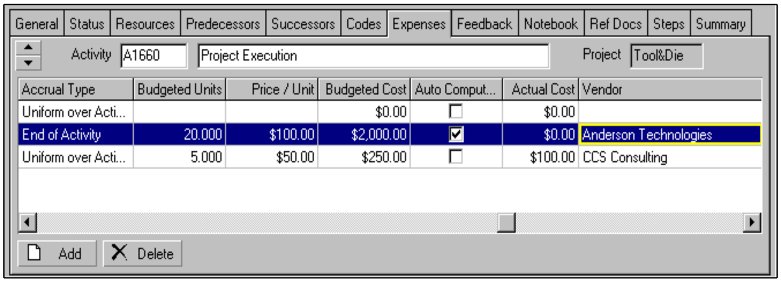


For information about setting up expenses for your projects, see the *Working with Cost Accounts and Project Expenses* chapter.

Click Add, then type the expense's name. Double-click the item's expense category listing, click the category you want to assign, then click the Select button. Double-click the Accrual Type cell, then select the expense's accrual type. Type the number of budgeted units you expect the selected activity to use. Type the cost of each unit. P3e calculates and displays the expense's budgeted cost (budgeted units * price/unit) in the Budgeted Cost field.

For more information on automatically computing actuals, see the *Updating, Scheduling, and Leveling* chapter.

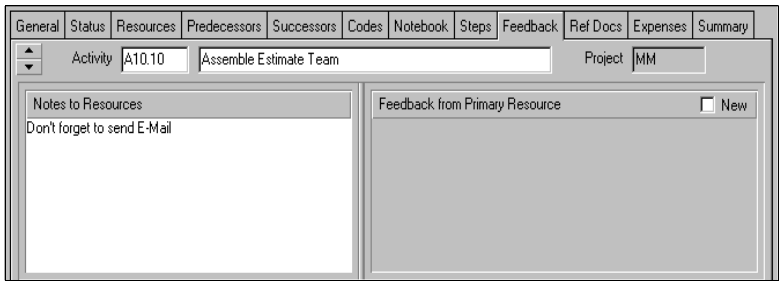
To automatically calculate an expense's actual cost based on the activity's planned completion percentage, mark the Auto Compute Actuals checkbox.



To enter actual expense costs already incurred by the activity, type the cost in the Actual Cost field. Type the name of the vendor business or organization to which the expense is payable.

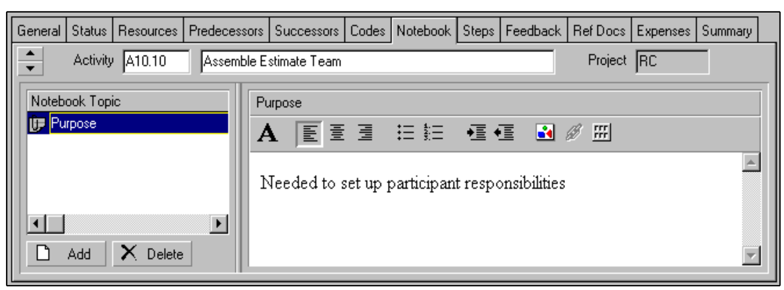
Viewing Activity Feedback and Posting Resource Notes

In the Activities window, select the activity whose comments you want to view. These comments are added in Progress Reporter by the primary resource for the activity. Click the Feedback tab in Activity Details. Review the notes in the Feedback from Primary Resource area.



In the Notes to Resources area, type any comments to the resources who are working on the activity. The notes are then posted with the activity in Progress Reporter for the resources to read.

Assign notes to activities In the Activities window, select the activity to which you want to assign a note. Click the Notebook tab in Activity Details.



Click Add. Select the notebook topic(s) you want to assign. These topics are predefined in the Notebook Topics tab of the Admin Categories dialog box. To make the topics accessible for assignment to projects, EPS nodes, WBS elements, and/or activities, mark the appropriate checkboxes in the Admin Categories dialog box. To assign multiple topics, hold down the Ctrl key, then click each notebook topic you want to assign. Click the Assign button.

In the Purpose section of the Notebook tab, type a brief description for the selected notebook topic. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other information fields (while retaining formatting), and adding hyperlinks.

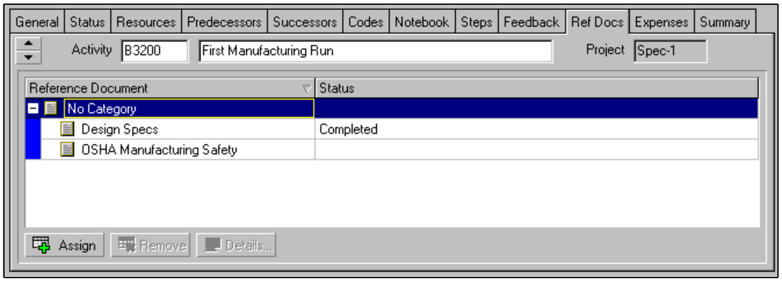
Assigning Documents

Reference documents usually refer to standards and guidelines. These documents enable you to catalog and track all project-related documents and deliverables. Choose Project, Reference Documents, to set up the documents.

For more information about reference documents, see the *Maintaining a Project's Document Library* chapter.

Set up the categories for reference documents by choosing Admin, Admin Categories, then clicking the Document Categories tab. Click the Document Status tab to establish the different status codes you want to use for the documents. Categories and status codes are then assigned to documents in the Reference Documents window.

In the Activities window, select the activity to which you want to assign a reference document. Click the Ref Docs tab in Activity Details.



Click Assign in the Ref Docs tab. Select the reference document you want to assign. To assign multiple reference documents, hold down the Ctrl key, then click each item. Click the Assign button, then click the Close button.

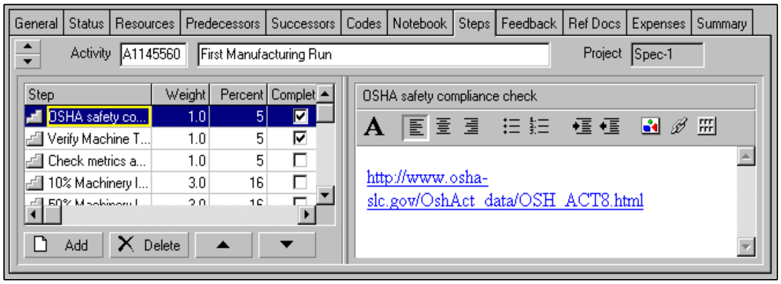
To view detailed information about and/or open a reference document, select the item, then click Details in the Ref Docs tab.

Adding Steps

You can divide an activity into smaller task increments called steps and then assign weights to the steps to calculate the activity’s percent complete. For example, three steps are assigned to an activity; the first step has a weight of 2, and the second and third steps each have a weight of 1. When you mark the first step (weight of 2) complete, the percent complete is 50. When you mark the first and second steps complete, the percent complete is 75. When all three steps are marked complete, the percent complete is 100.

In the Activities window, select the activity to which you want to add a step. Click the Steps tab in Activity Details.

You may want to use weighted steps to status activities in P3e when a project consists of large activities that encompass distinct tasks.



Click Add. Type the name of the new step. Type a brief description of the step for the selected activity. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other information fields (while retaining formatting), and adding hyperlinks. To move the step to an earlier stage of the activity, click the up arrow. To move the step to a later stage of the activity, click the down arrow.

Enter a number indicating the weight of the step, relative to the other steps listed for the activity. The weight can be any number between 0.0 and 999999.0. To indicate that the step is complete, mark the Completed checkbox. The Percent column displays the percent value that corresponds to the step’s weight.

Setting Options for Using Weighted Steps

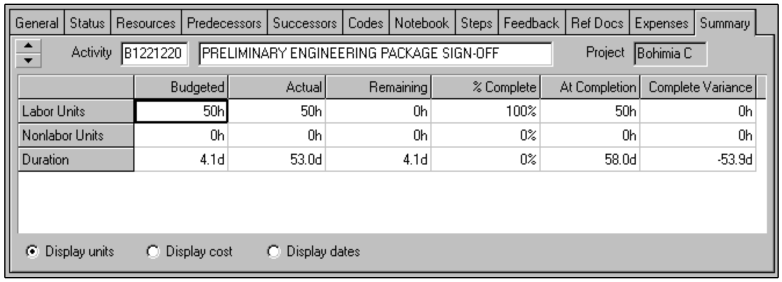
You must select Physical as the percent complete type in the General tab in Activity Details to use weighted steps to calculate an activity's percent complete. The Physical % field in the Status tab of Activity Details then becomes a calculated field, which displays the percent complete based on the relative weights of the completed steps versus the incomplete steps.

In addition, you must mark the Activity Percent Complete Based on Activity Steps checkbox in the Project Details Defaults tab in the Projects window to base percent complete on weighted activity steps.

If you do not set these options, you can still edit the Weight and Completed fields in the Steps tab, but they will not be used in any calculations. You will also be able to edit the Physical % field in the Status tab of Activity Details.

Viewing Activity Summaries

In the Activities window, select the activity whose summary information you want to view. Click the Summary tab in Activity Details.



To view summary information about the activity’s units, choose Display Units. To view summary information about the activity’s costs, choose Display Cost. To view all of the activity’s start and finish dates, choose Display Dates.

Using Global Change

The Global change feature enables you to make changes to all activities, or a selected group of activities, at one time. You can use Global change to edit existing values, assign new values, or delete a group of activities from your project.

P3e does not change data exclusively locked by another user at the time you run Global change. To obtain exclusive access, before opening the project select Exclusive in the Access Mode section of the Open Project dialog box.

You must have access to the activities to which you want to make Global changes. If your security profile does not allow you to access all the activities, you will not be able to commit the changes you make.

If statements control which project data P3e changes. *Then* and *Else* statements specify the changes to be made. You can define an unlimited number of If, Then, or Else statements. All Global change specifications require at least one Then statement. If statements are optional. P3e applies a Then statement with no If statement to all activities in the current filter.

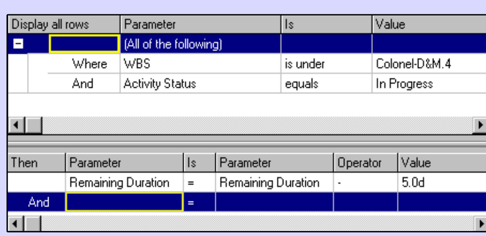
P3e does not store multiple instances of Global change specifications. When you choose Tools, Global Change, the last set of conditions you specified are the only ones available.

Add a global change specification

Choose Tools, Global Change. To add an If statement, in the topmost section of the Global Change dialog box, select whether to include All of the Following conditions in the If statement, or Any of the Following conditions in the If statement. To add a Then and Else statement, click in the Then section to define a Then statement and in the Else section to define an Else statement.

You can define Then statements without defining either an If statement or an Else statement. To define an Else statement, you must first define an If statement. The following global change example uses an If and Then statement.

For more information about Global change, see P3e's online help.



This global change specification selects all in-progress activities with a WBS assignment of Colonel-D&M.4 or lower and changes their remaining durations by five days.

Working with Cost Accounts and Project Expenses

In this chapter:

Cost accounts enable you to track activity costs and earned value throughout the project life cycle. Set the default cost account at the project level so that it is automatically assigned to the project's activities. Cost accounts are established in a hierarchy available to all projects in the enterprise project structure (EPS).

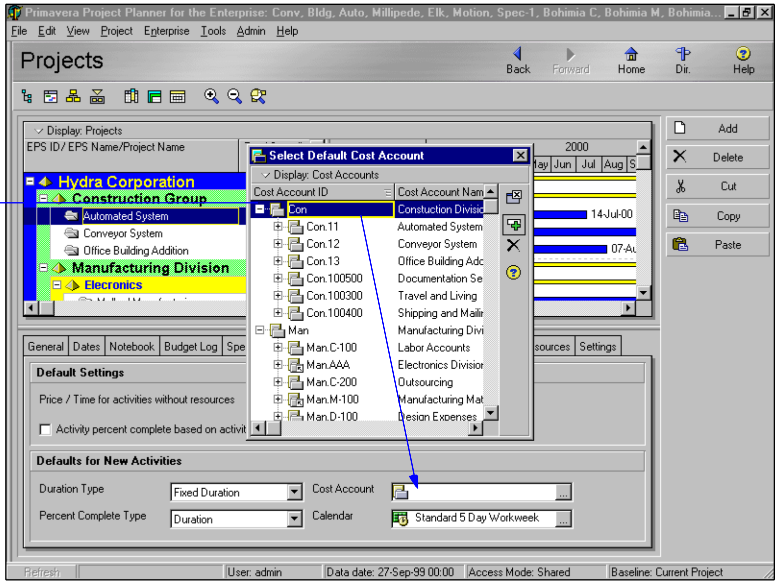
Expenses are nonresource costs associated with a project and assigned to a project's activities. They are typically one-time expenditures for nonreusable items. Examples of expenses include materials, facilities, travel, overhead, and training.

Read this chapter to learn how to set up cost accounts and add expenses.

Cost Account and Expense Overview

In P3e you can create cost accounts that you can assign to activities in any project. Cost accounts are hierarchical and they enable you to track activity costs and earned value according to your organization's specific, cost account codes.

You can assign a default parent cost account for each project in the Projects window, then assign the child cost accounts when associating expenses with activities.



You can also add expenses, assign expense categories to them, and specify whether an expense accrues at the start or end of an activity or uniformly over its duration. Each expense has a budgeted cost, actual cost, and estimated remaining cost. When calculating earned value, you can optionally include or exclude expenses.

Expenses are not the same as resources. Resources are time-based and generally extend across multiple activities and/or multiple projects. Examples of resources are personnel and equipment. Unlike resources, expenses are project-specific and they are not time-based. P3e does not include expenses when leveling resources.

Setting Up a Cost Account Structure

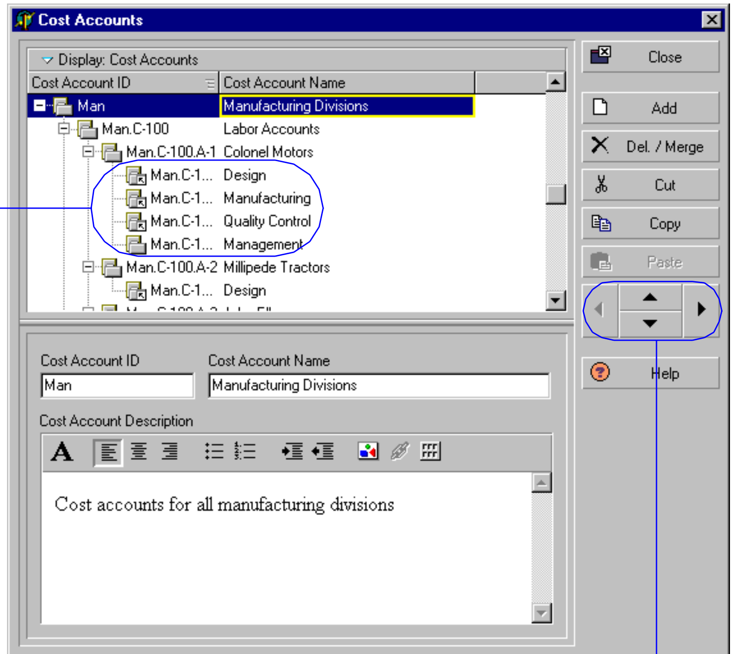
Set up a cost account structure and assign codes to activities and/or resources. Use the cost account structure to track the amount of work accomplished against the amount of money spent.

Create a cost account hierarchy Choose Enterprise, Cost Accounts. Click the Cost Account ID column label to display the cost accounts hierarchy. An outline icon in the Cost Account ID column label indicates a hierarchy display.

Select the cost account immediately above and at the same level as the cost account you want to add, then click Add. Type the cost account's ID and name. The cost account ID and name should identify a project component, such as engineering, hardware, or research. Create cost accounts beneath each main component to delineate the component's parts, such as coding and installation for hardware.

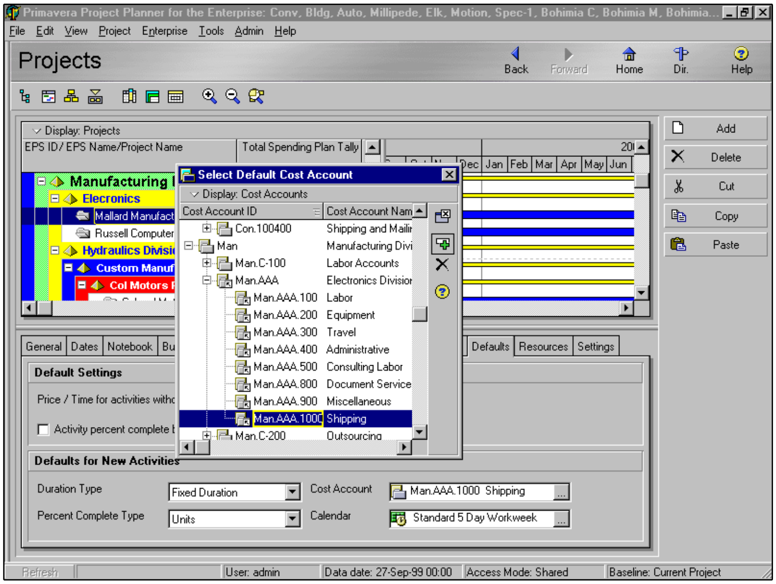
In the Cost Account Description area provide an optional, brief summary of the cost account. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

When you indent, or create a lower-level cost account, P3e automatically prefixes the new account with the higher level's ID.



Use these arrows to indent/outdent a value in the cost account hierarchy and to move a selected value up or down in the list.

Set the project default cost account Specify a default cost account that will be used for resources assigned to activities and project expenses in the selected project. Choose Enterprise, Projects, to open the Projects window. Display Project Details by clicking the Display Options bar and choosing Show on Bottom, Project Details. Click the Defaults tab, select a project in the upper layout, then click the Browse button in the Cost Account field. Select the default cost account, then click the Select button.

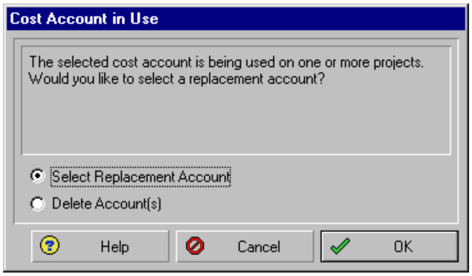


P3e only uses your default cost account for new resource assignments to activities and new project expenses. Changing this setting does not affect existing resource assignments to activities or existing project expenses.

Edit a cost account Choose Enterprise, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline icon in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to edit. Type a new cost account ID and name. To change the cost account's position in the cost accounts hierarchy, click the appropriate arrow buttons.

If you change a cost account's ID or name, P3e applies your change to all activity assignments.

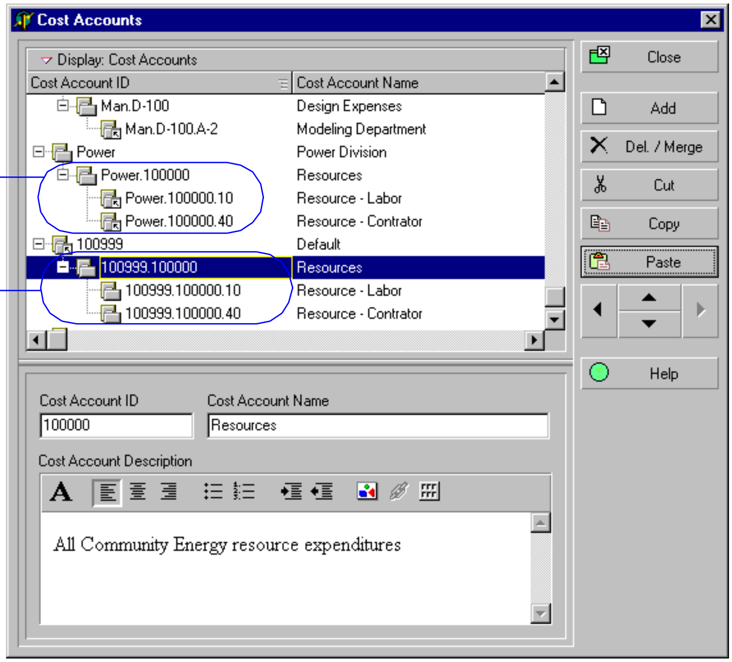
Delete a cost account Choose Enterprise, Cost Accounts. Select the cost account you want to delete, then click Del./Merge. If the cost account is assigned to activities or projects, the Cost Account in Use dialog box is displayed.



To delete the cost account and specify a replacement cost account, choose Select Replacement Account, click OK, then select a replacement account. To delete the cost account without specifying a replacement cost account, choose Delete Account(s), then click OK.

Copy and paste cost accounts Choose Enterprise, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline icon in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to copy, then click Copy. Select the cost account to which you want to paste the copied account, then click Paste.

P3e pastes the copied cost account below the selected cost account in the hierarchy, and includes any lower-level cost accounts in the copied cost account.



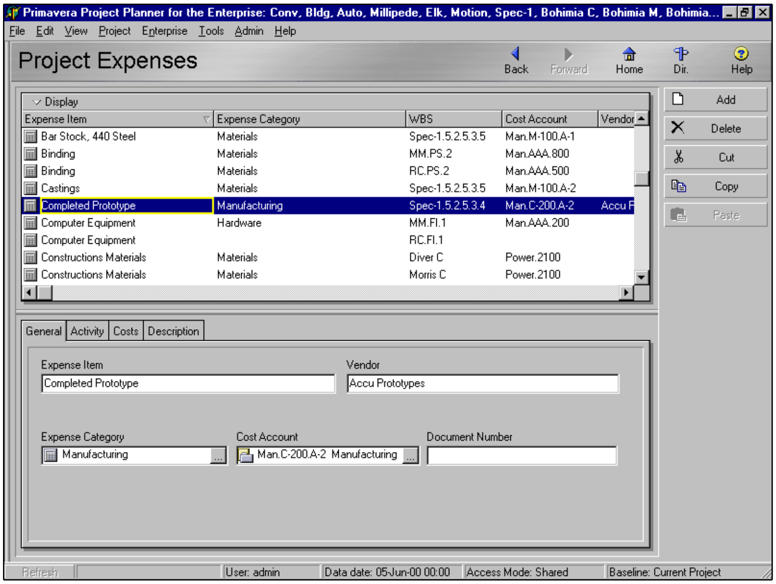
You cannot copy a cost account's activity and project assignments.

Cut and paste cost accounts Choose Enterprise, Cost Accounts. Make sure the cost accounts hierarchy is displayed; an outline icon in the Cost Account ID column label indicates a hierarchy display. Select the cost account you want to cut and paste, then click Cut. Select the cost account to which you want to move the cut account, then click Paste.

When you cut and paste a cost account, P3e maintains the account's activity and project assignments.

Adding Expenses and Entering Cost Information

Use the Project Expenses window to create, view, and edit expenses and related cost information for the open project. You can assign a cost account and corresponding work breakdown structure (WBS) code so you can identify the project component associated with the expense, and the area of work with which it is associated. The Project Expenses window is displayed when you choose Project, Expenses. To include Project Expense Details at the bottom of the Project Expenses window, click the Display Options bar and choose Expense Details. (The checkbox next to the command should be marked.)



For steps on adding expenses to activities from the Activities window, see the *Working with Activities* chapter.

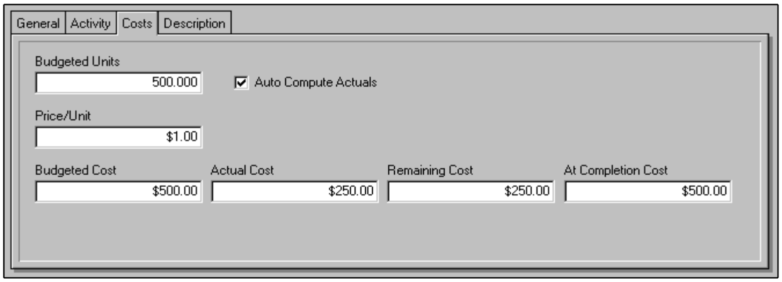
Add expenses Choose Project, Expenses. Click Add. Select the activity that incurs the expense, then click the Select button. The activities in the Select Activity dialog box are organized by WBS code, so you can easily find the activity by WBS association.

Click the General, Activity, Costs, and Description tabs, and enter the expense's information. For an explanation of the fields on these tabs, refer to the *Defining Expense Details* section of this chapter.

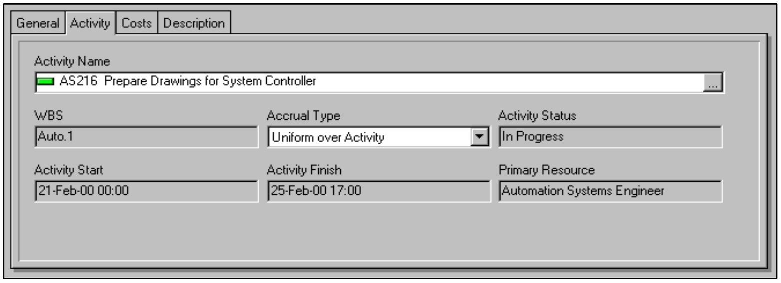
Enter cost information for expenses Choose Project, Expenses. Select the expense whose cost information you want to enter, then click the Costs tab. Type the number of units you expect the expense's assigned activity to use, then supply the price for each unit. P3e calculates and displays the budgeted cost of the selected expense (budgeted units * price/ unit) in the Budgeted Cost field.

For more information on automatically computing actuals, see the *Updating, Scheduling, and Leveling* chapter.

To automatically calculate an expense's actual cost based on the activity's completion percentage, mark the Auto Compute Actuals checkbox. P3e automatically updates the actual/remaining units when project actuals are applied. This setting assumes that all work for the activity proceeds according to plan.



Enter an expense accrual type Choose Project, Expenses. Select the expense whose accrual type you want to enter, then click the Activity tab.

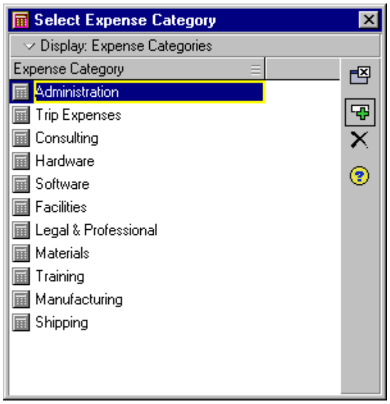


Select one of the following accrual types:

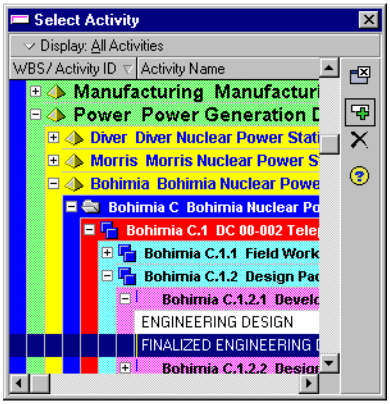
- **Start of Activity**, to accrue the entire expense on the date the activity begins
- **End of Activity**, to accrue the entire expense on the date the activity ends
- **Uniform Over Activity**, to evenly distribute the expense over the course of the activity's duration

To set up expense categories, choose Admin, Admin Categories, then click the Expense Categories tab.

Assign an expense category Choose Project, Expenses. Select the expense to which you want to assign an expense category. Expense categories enable you to classify the type of cost and can be used to group, sort, filter, and report the expense and cost information for your projects. Click the General tab, then click the Browse button in the Expense Category field. Select the category you want to assign, then click the Select button.



Change an expense assignment Choose Project, Expenses. Select the expense you want to reassign, then click the Activity tab. Click the Browse button in the Activity Name field. Select the activity to which you want to reassign the expense, then click the Select button.



Defining Expense Details

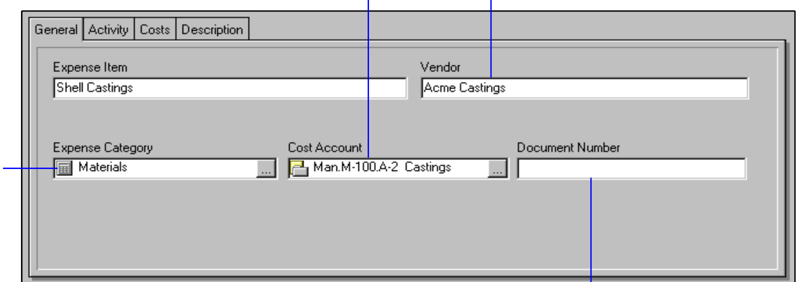
Use Project Expense Details to view and edit detailed information about the selected expense item. Project Expense Details appear in the Project Expenses window when you choose Expense Details from the Display Options bar.

General information Use the General tab to define general information for the selected expense item, such as the item name and category. You can also specify the item's vendor, cost account, and document number.

The cost account assigned to the activity that incurs the selected expense

The name of the business or organization to which the selected expense is payable

The project administrator defines expense categories in the Admin Categories dialog box.



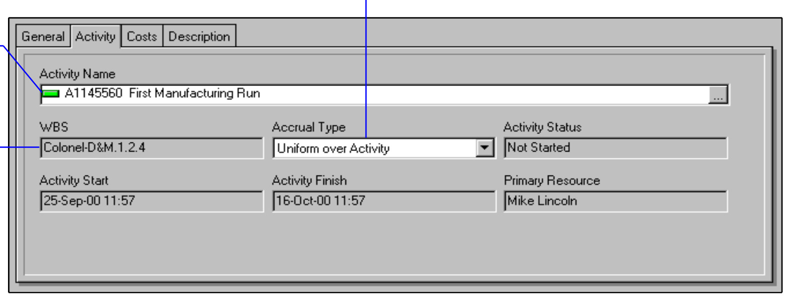
The purchase order or invoice number for the selected expense

Activity information Use the Activity tab to change the selected expense item's activity assignment and specify the expense item's accrual type. You can also view the item's activity assignment according to WBS element, activity status, activity start and finish dates, and primary resource.

The rate at which the selected expense accrues

The ID and name of the activity that incurs the selected expense

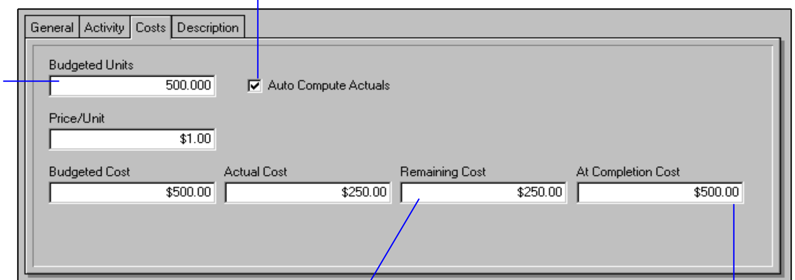
The code for the WBS element that contains the selected expense's assigned activity



Costs Use the Costs tab to specify cost amounts for the selected expense item, including price/unit, budgeted cost, actual cost, and remaining cost. You can also indicate if you want P3e to calculate an expense item's actual cost according to activity completion percentage.

Mark to indicate whether the actual and remaining units for the expense are computed automatically using the budgeted cost and the activity's schedule percent complete

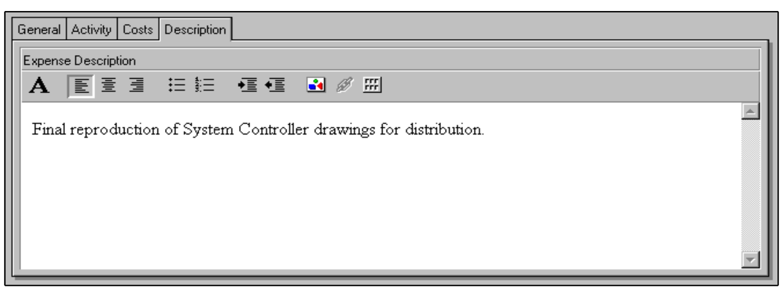
The expected number of units the selected expense's activity will use



While the activity is in progress, the remaining cost (budgeted cost - actual cost) should be updated to reflect the estimated remaining cost required for the expense.

The total cost for the selected expense when the associated activity is completed. The at completion cost equals the actual cost plus the remaining cost.

Description Use the Description tab to enter a description of the selected expense item. You can type a new description. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

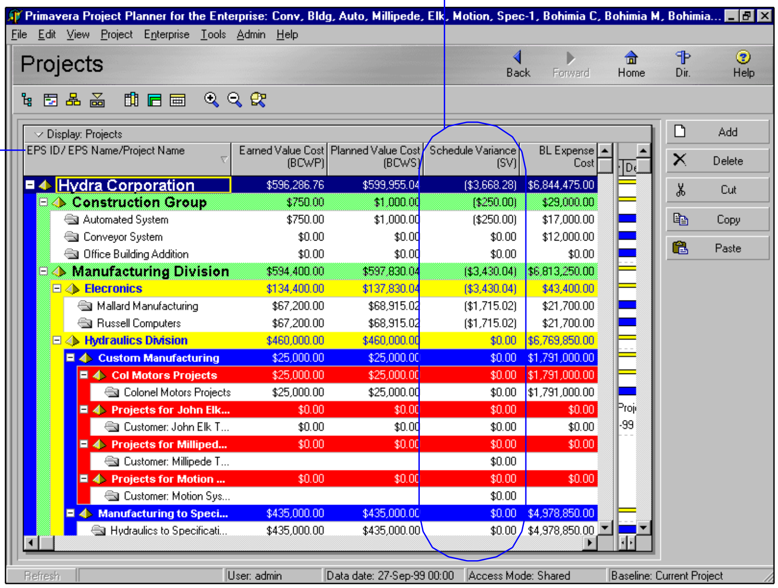


Analyzing Costs

Comparing actual costs to budgets is a simplistic approach to cost control. Determining performance using earned value is more effective. Measuring earned value involves three key indicators: planned value, earned value, and actual cost for work performed. If you track these values over time, you can see the past spending and schedule trends for the project, together with a forecast of future costs.

The variance between the planned budget and earned value amounts indicates an unfavorable schedule variance.

Customize columns in the Projects window to report earned value for all projects in the enterprise.



Use cost spreadsheets, profiles, and cost control reports to monitor spending. For example, the following summary report lists the expenses associated with each project and provides the total budget, actual, and remaining costs for each expense.

EX-01 Expense Summary By Project

Expense Item	Activity ID	Budgeted Cost	Actual Cost	Remaining Cost
Computer Equipment	A20.190	$10,000.00	$0.00	$10,000.00
Meeting Lunch	A10.10	$100.00	$200.00	$0.00
Trip expenses	A10.20	$10,000.00	$15,000.00	$0.00
Meeting Lunches	A10.40	$300.00	$500.00	$0.00
Auto Milage	A10.30	$200.00	$150.00	$0.00
Printing	A10.50	$500.00	$1,000.00	$0.00
Binding	A10.50	$100.00	$0.00	$0.00
Shipping (FedEx)	A10.60	$500.00	$0.00	$500.00
Subtotal		$21,700.00	$16,850.00	$10,500.00

Project Name **Russell Computers**

Expense Item	Activity ID	Budgeted Cost	Actual Cost	Remaining Cost
Computer Equipment	A20.190	$10,000.00	$0.00	$10,000.00
Meeting Lunch	A10.10	$100.00	$200.00	$100.00
Trip expenses	A10.20	$10,000.00	$15,000.00	$0.00

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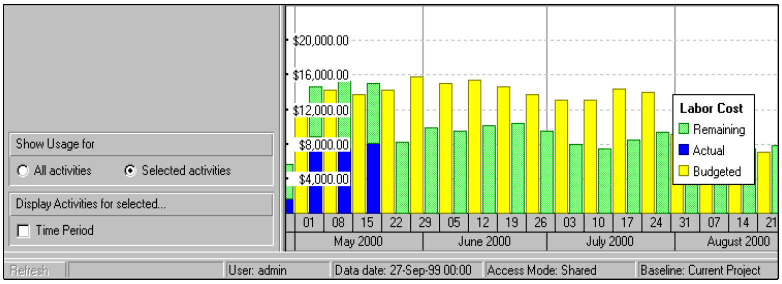
The following activity spreadsheet pairs activity duration columns on the left with the corresponding cumulative cost information on the right. You can see the cumulative budgeted labor expenses for each activity per manufacturing week, along with the totals for the WBS elements.

WBS/ Activity ID	Activity Name	Original Duration	Remaining Duration	Cum Remaining Expense Cost	April 2000 W14	W15	W16	W17	W18	W
Manufacturing	Manufacturing ...	417.9d	370.9d		,864k	,039k	,128k	,287k	,655k	,6!
Electronics	Elecronics	372.0d	333.0d		21.1k	21.1k	21.1k	21.1k	21.1k	21
MM	Mallard Manufacturing	372.0d	333.0d		10.5k	10.5k	10.5k	10.5k	10.5k	10
MM.PS	Pre Sales	70.0d	31.0d		$500	$500	$500	$500	$500	$!
MM.PS.1	Pre Sales Evaluation	10.1d	0.0d							
A10.10	Assemble Estimate Team	0.1d	0.0d							
A10.20	Site Visit	9.1d	0.0d							
MM.PS.2	Proposal Generation	59.0d	31.0d		$500	$500	$500	$500	$500	$!
A10.30	Front End Loading	11.1d	0.0d							
A10.50	Generate Proposal	29.1d	29.1d							

Produce activity profiles to see a graphical representation of cost flow for all or selected activities in the Activities window. The histogram bars in the following example indicate quarterly expenses for multiple selected activities. Using a time-based graphic helps you gauge when and where costs are expended, and enables you to see if spending is staying within budget.



Part 4

Updating and Managing the Schedule

In this part:

Successful project management doesn't end after you develop a project plan. To accomplish the goals of your project, you need to track daily events and update the schedule with accurate data. *Managing Baselines* describes how to create a copy of a project that can be compared to the current schedule to gauge progress, and *Updating, Scheduling, and Leveling* explains how to update the schedule and level resources, if required.

Read *Project Issues and Thresholds* and *Managing Risks* to learn how these features help you monitor project schedules to identify potential problems early in the process. *Maintaining a Project's Document Library* describes how to track project-related documents and deliverables, while *Tracking Projects* shows you how to create layouts that enable you to view summary data for individual projects, as well as the entire enterprise project structure (EPS). Read the *Checking Projects In and Out of P3e* chapter to learn how to keep track of projects that are used outside of the enterprise database.

Managing Baselines

In this chapter:

A baseline is a complete copy of a project plan that you can compare to the current schedule to evaluate progress.

This chapter describes how to create baselines and assign them to projects. You will also learn how to modify a baseline and compare a project's current schedule to its baseline.

Working with Baselines

Before you update a schedule for the first time, you should create a baseline plan. The simplest baseline plan is a complete copy or “snapshot” of the original schedule. This snapshot provides a target against which you can track a project’s cost, schedule, and performance.

Each baseline can be assigned a type that categorizes its purpose, for example, initial planning baseline, what-if project plan baseline, or mid project status baseline. Baseline types are defined by the P3e administrator in the Admin Categories dialog box.

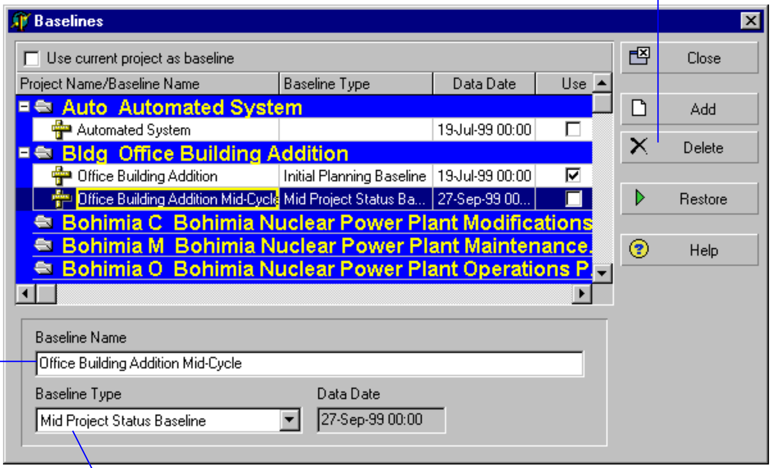
You must have at least one project open to access project baselines.

You can designate any existing project, or a copy of the current project, as a baseline. P3e allows you to save up to 50 baselines per project, however, you can designate only one active baseline at a time for comparison to the current project. The maximum number of baselines allowed is defined by the P3e administrator in the Admin Preferences dialog box.

Baseline projects do not exist as separate projects that you can access. To copy or modify a baseline project, you must first unlink it from its current project. The “restored” baseline project then acts as any other project in the enterprise project structure (EPS).

Create project baselines Open the project(s) for which you want to create a baseline or view assigned baseline projects. Choose Project, Baselines. The Baselines dialog box groups the currently open projects into individual bands, with any existing baseline projects beneath its current project.

Click to delete the currently selected baseline project.



You can rename each baseline to make it unique.

Assign a type to baselines to help categorize them across multiple projects.

To create a baseline project, click Add. Choose to save a copy of the current project as a new baseline or convert another project to a new baseline.

If you choose to save the current project as a baseline, P3e creates a baseline project with the name and data date as the current project. To distinguish the baseline project, P3e appends the name with - B1 and increments each new baseline added. For example, if Acme Project is saved with 3 baselines the new baselines should be saved as:

ID	Name
APEX - B1	Acme Project - B1
APEX - B2	Acme Project - B2
APEX - B3	Acme Project - B3

If multiple projects are open, you can create a baseline for the selected projects. (To select a project Ctrl-click on its band.)

Before you convert a project as a baseline, you should copy it because it will no longer be available in the project hierarchy.

If you choose to convert another project as a baseline of the current project, you are prompted to select the project to designate as the baseline from the project hierarchy. You cannot select a project that is currently open, nor can you select a project that already has its own assigned baseline. P3e creates a baseline project with the same name and data date as the selected project. (To distinguish the baseline project, P3e appends the name with - B1.) This new baseline project is then removed from the project hierarchy and is no longer available as an individual project.

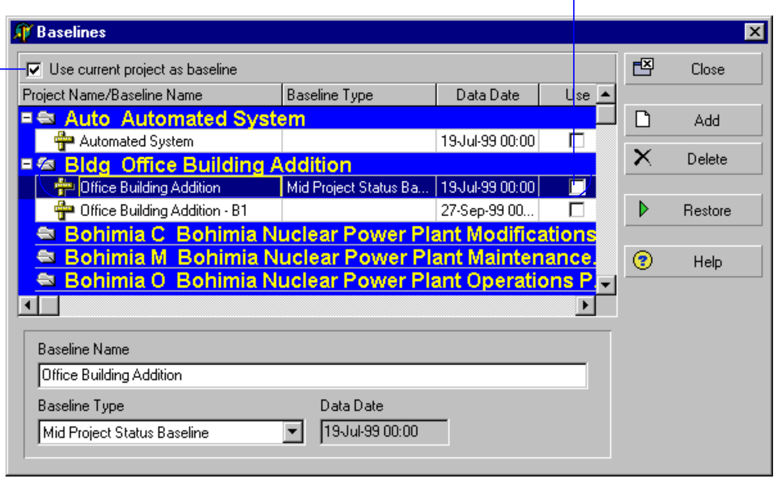
You can only convert one project at a time as a baseline. If multiple projects are open, you must select one project before you can create the baseline project.

After you create a baseline, you can change its name and assign a baseline type to it.

Assign the baseline to use for the current project Use the Baselines dialog box to choose which baseline is the active baseline for a project. Only one baseline project can be assigned to a current project at a time. Open the project(s) for which you want to select a baseline. Choose Project, Baselines. Select the baseline, then mark the Use checkbox that corresponds to it. If no baseline is designated as active, the current project is used as the baseline.

You can create multiple baselines for a project. Mark the Use checkbox to indicate which baseline you want to make active. If no baseline is marked, then the current project is used.

When the selected project does not have an assigned baseline, this checkbox becomes available and the current project is used as the baseline.



Baseline assignments are user-specific, meaning that each user can choose a different version for his/her active baseline to the current project.

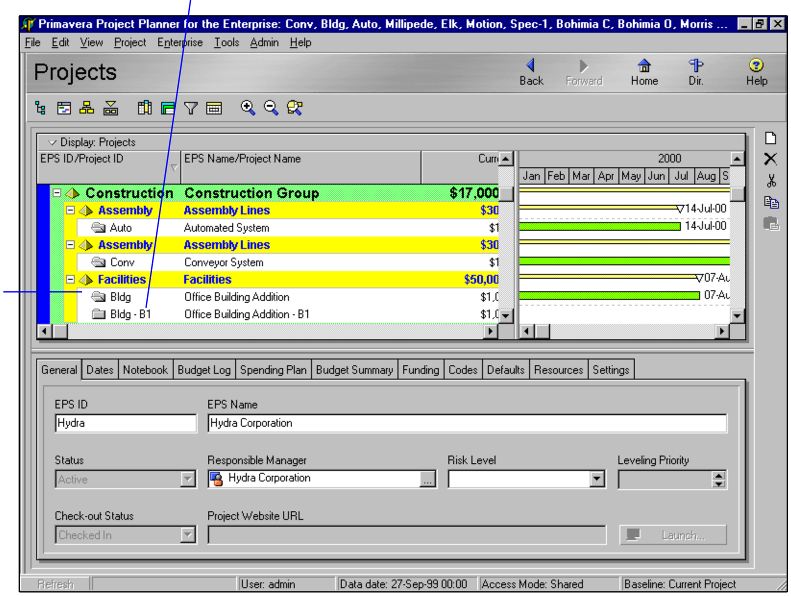
Delete a baseline You can delete a baseline from the project database. Select the project that contains the baseline you want to delete. Choose Project, Baselines. Select the baseline, then click Delete.

You cannot delete a baseline that is designated as the current baseline. You must first mark a different baseline as current.

Modify a baseline As a project progresses and changes occur, you may want to update a baseline project. You can restore a baseline project, making it available again as a separate project in the project hierarchy. Open the project that contains the baseline you want to restore. Choose Project, Baselines. Select the baseline you want to restore, then click Restore. Click Yes. The restored project is placed in the same node as the project to which it was linked as a baseline.

The restored baseline project can be accessed in the project hierarchy along with its current project.

Current project



For instructions on converting a project to a baseline, see the beginning of this section.

After you make changes to a restored baseline project, you can return it as a baseline to retain the changes for comparison against the current project. For example, you may want to revise the baseline to indicate scope changes once the current project is underway.

Comparing Current and Baseline Schedules

For more information about updating the schedule, see the *Updating, Scheduling, and Leveling* chapter.

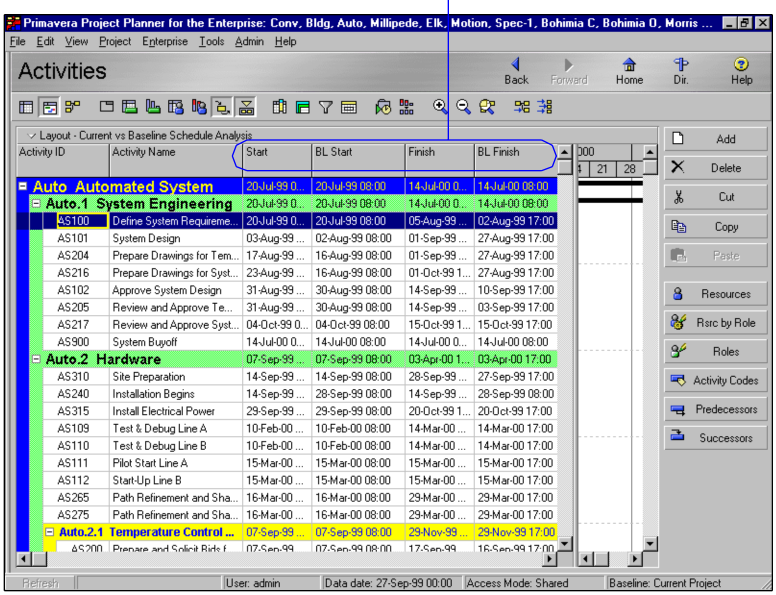
After a project is updated, you can quickly evaluate progress and performance onscreen. Use a layout that shows current and baseline bars to identify tasks that start or finish later than planned. In the list of activities, include columns for the planned value, actual costs to date, and earned value to identify tasks that are behind schedule or over budget. For detailed reporting, create schedule and activity matrix reports and resource and cost graphics. Run the Earned Value report to analyze cost and schedule variance. Displaying baseline and current bars in the Gantt chart indicates how the schedule is progressing according to the original plan.

BL appears before any data item that is available from a baseline project.

A target comparison makes it easy to see variances between the current and baseline dates. Add columns in the Activity table for almost any data item from the baseline project. Display activity bars that represent baseline dates. You can also display target and variance data on the activity bars.

> *When the current project is open, you can view, but not change, baseline data. To modify the baseline, you must first restore it as a separate project.*

This layout includes current and baseline columns for start and finish dates.



Updating, Scheduling, and Leveling

In this chapter:

A good project schedule can serve as a key management tool for making decisions and predicting whether the project will finish on time and within budget. Update your project regularly so you can record progress and identify potential problems.

You can update project progress by applying actual data to activities directly in a project or by using timesheet updates from Progress Reporter.

After you update the project, schedule it to calculate the earliest start and finish dates as well as the latest start and finish dates for each activity and for the entire project. Level resources in your project schedule to ensure that resource demand does not exceed resource availability. When you level resources, P3e delays each activity until sufficient resources are available.

Read this chapter to learn how to update and schedule projects, and level resources.

The Update Process

Once a project is underway, it is important to keep the schedule up to date. Actual durations will probably vary from your original estimates, and the sequence of activities may change once the work begins. In addition, you may need to add new activities and delete unnecessary ones. Regularly updating schedules and comparing them with baseline schedules ensures that you are using resources effectively, monitoring project costs against budget, and keeping abreast of actual durations and costs so you can initiate your contingency plan if necessary.

The project controls coordinator, along with the project managers, establishes company procedures and communicates them to all participants. Usually, several projects at various levels of progress will be occurring simultaneously. Multiproject management can be complicated further when project managers, key resources, or other employees involved in the process are geographically dispersed. You must consider these factors as you establish updating guidelines.

To help develop procedures, ask questions such as these:

- What data need to be assembled for the update and what methods will be used to collect the data?
- How often should projects be updated?
- Are resources local or offsite?
- On which project teams are resources participating?
- Who on each team will be gathering the information used for the project update?
- Who needs to see the results of the update and when do they need to see them?
- What types of information need to be generated after each update to communicate progress before the next update?

The answers to these questions help determine how you will use P3e to update projects.

Identify the types of data to collect The data to collect may depend on whether you are updating activities or individual resource assignments. You can update activities by simply recording actual dates and a remaining duration. For resource assignments, enter the actual hours to date and the hours remaining. P3e can also estimate progress automatically.

Determine how data will be collected Will you automatically collect timesheet entry data for each employee from Progress Reporter? Will you import data from other systems supported by your company, such as an accounting system? Or will updates be handwritten on printouts of the schedule distributed to project participants, collected weekly by the project manager or team leader, and entered in P3e?

If you answered Yes to one or more of these questions, your update process will probably involve more than one procedure—all handled equally well by P3e.

Determine how often data should be updated Depending on how quickly your projects change, you may want to update weekly, daily, or even hourly. Although no rules exist for update frequency, consider these general guidelines: if your projects never seem to be accurate, you are not updating often enough, or the scope of your activities is too broad—you should divide activities into smaller ones. If you spend too much time updating, you're updating too often, or the scope of your activities is too narrow.

Analyze and communicate data Recording progress in P3e is only the beginning of the update process; after you produce an updated schedule, you need to analyze the results.

P3e offers many display and print options to examine updated project schedules. You can first view onscreen layouts to see immediate results, then look at project data in more detail by generating reports. Pinpoint potential problems by comparing the current schedule to the target plan in the Bar chart or by displaying a resource profile for a graphical representation of resource use. If problems exist, you may want to perform "what-if" analyses before modifying the network. Use existing report templates, create new template specifications by modifying existing ones, or add your own template to produce the data you need to see.

Effective communication to all project participants is also essential to the success of every project. Use easily understood reports and layouts to show the project team and management what is happening. Focus on critical activities, resource and cost overloads, and slippages, and identify actual and required future progress.

The next several topics in this chapter discuss specific methods for recording progress in P3e.

Choosing a Method of Updating

P3e offers several ways to update project schedules. You can update progress for all activities and resources as a whole, update activities and resources individually, update progress from timesheets, or use a combination of these methods.

More than likely, your projects do not progress as planned—many activities start out-of-sequence, activities take more or less time to complete than originally planned, or actual resource use exceeds planned use. In these cases, update activities and resources individually. This will help you forecast the effects of unforeseen progress or lack of progress so that you can take appropriate corrective action wherever necessary. You can update activities and/or resources manually in P3e or collect timesheet data from Progress Reporter.

Sometimes, you may only need to estimate progress. You can choose to "auto compute actuals," then simply specify the data date and apply actual data. Before the first update, the data date is the project start date; once the project begins, the data date is the date up to which you are reporting progress. P3e uses the data date to determine which activities have progressed and how much, and to calculate the remaining durations of activities that have started. P3e also notes which activities are complete and sets their remaining durations to zero.

Most projects progress somewhere between these two situations: some activities are occurring as planned and some are not. If this is the case, you may want to combine the two updating methods. Let P3e calculate a project schedule as if the project is progressing exactly as planned and then individually update those activities and resources that have deviated from the plan.

Regardless of the method you choose, the update process should proceed as outlined below:

For information on implementing Progress Reporter, see the *Primavera Enterprise Administrator's Guide*.

1 Establish a standard update procedure that includes which method you will use to record progress.

   Depending on the method you choose, set calculation variables for percent complete type and duration type.

2 Create a baseline plan, as discussed in the *Managing Baselines* chapter earlier in this part.

3 Record progress on activities automatically or manually in P3e, and/or from Progress Reporter timesheet data.

Recording progress includes entering actual start and/or finish dates, updating actual resource use/cost to date, and estimating remaining work to complete.

If collecting timesheet data from Progress Reporter, review and approve timesheets in P3e.

4 Apply project actuals.

5 Calculate the schedule and level resources.

6 Compare the current schedule to the baseline plan and identify variances.

7 Analyze data through layouts and reports.

8 Make adjustments and communicate the schedule updates.

Estimating Progress Automatically

If you want to estimate progress as if activities are proceeding on schedule, you can automatically calculate actual data based on activity, resource, and/or expense data.

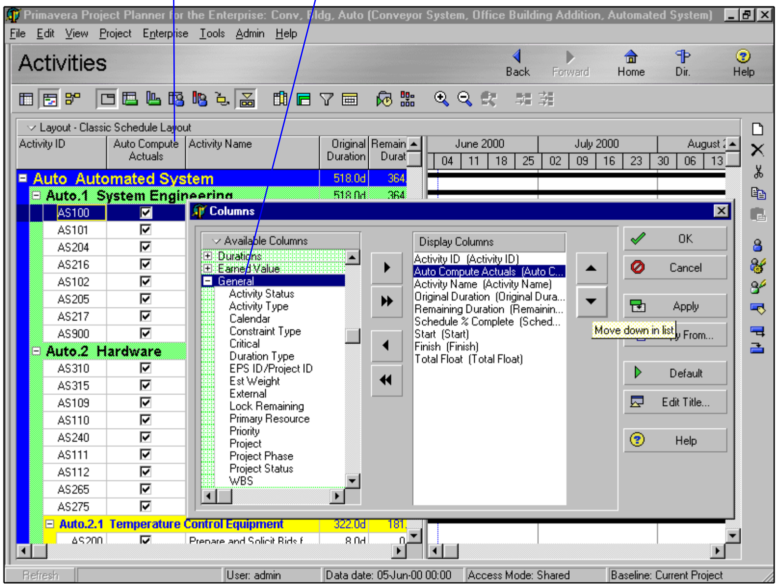
Estimating activity progress is a quick and convenient way to update your project. P3e estimates progress only for those activities that were supposed to take place. Since progress can occur out of sequence, you may need to update additional activities.

You should not automatically compute actuals in P3e for those activities/resources from which you are collecting timesheet data from Progress Reporter; otherwise, your timesheet data are overwritten when you apply actuals.

Set Auto Compute Actuals by activity If you set the Auto Compute Actuals option by activity, P3e determines actual dates, percent complete amounts, remaining durations, and actual and remaining units for all assigned resources. Choose, Project, Activities, and open a layout that contains the activities you want to automatically update. Add a column for the Auto Compute Actuals option and mark the checkbox next to each activity.

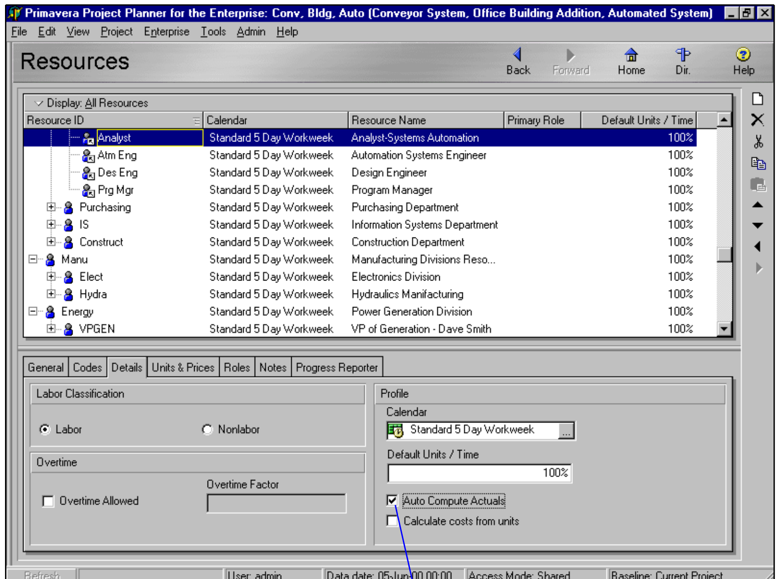
Mark the Auto Compute Actuals checkbox for each activity you want to update automatically.

The Auto Compute Actuals option is listed in the General section of Available Columns in the Columns dialog box.



Set Auto Compute Actuals by resource If you set the Auto Compute Actuals option by individual resource, P3e automatically updates actual units and remaining units using the budgeted units and the activity's percent complete. Choose Enterprise, Resources, and select the resource that you want to automatically update when actuals are applied. Click the Details tab and mark the Auto Compute Actuals checkbox.

To set Auto Compute Actuals for expenses, choose Project, Expenses, then click the Costs tab and mark the Auto Compute Actuals checkbox. Actual and remaining costs are updated.



Mark to automatically calculate actuals for the selected resource.

Setting Auto Compute Actuals

Setting the Auto Compute Actuals option to ON for an activity automatically updates actual and remaining units/costs for all resources/expenses assigned to the activity, regardless of whether the individual resources/expenses have the Auto Compute Actuals option set to ON. If you don't want to update all assignments, then turn OFF the activity's Auto Compute Actuals option and turn it ON only for those resources/expenses you want updated automatically. For example, you may be collecting actual data from some, but not all, resources through Progress Reporter. For those resources from which you are collecting actual data, turn OFF the activity- and resource-level Auto Compute Actuals option, and turn it ON for those resources not reporting data through Progress Reporter.

For more information on applying actuals, see *Applying Actuals* later in this chapter.

Update progress automatically Once you set the appropriate Auto Compute Actuals options, you can update progress automatically. Choose Tools, Apply Actuals.

Updating Using Timesheets

If employees are entering timesheet data using Progress Reporter, you can update activities in P3e based on their timesheet entries. Use the Time Approval window to process timesheets submitted by Progress Reporter users.

For information on configuring resources to use timesheets, see the *Primavera Enterprise Administrator's Guide*.

Approve timesheets Choose Tools, Time Approval. Select the timesheet period you want to review. Depending on the timesheet approval options set in the Timesheets tab in Admin Preferences, the Privilege field contains Read Only, Project Manager, or Resource Manager. If timesheets must be approved by both the project and resource managers, both manager options will be available.

To filter timesheets by status, click the Display Options bar in the upper layout, then choose Filter By and choose a timesheet status, such as Approved or Not Submitted.

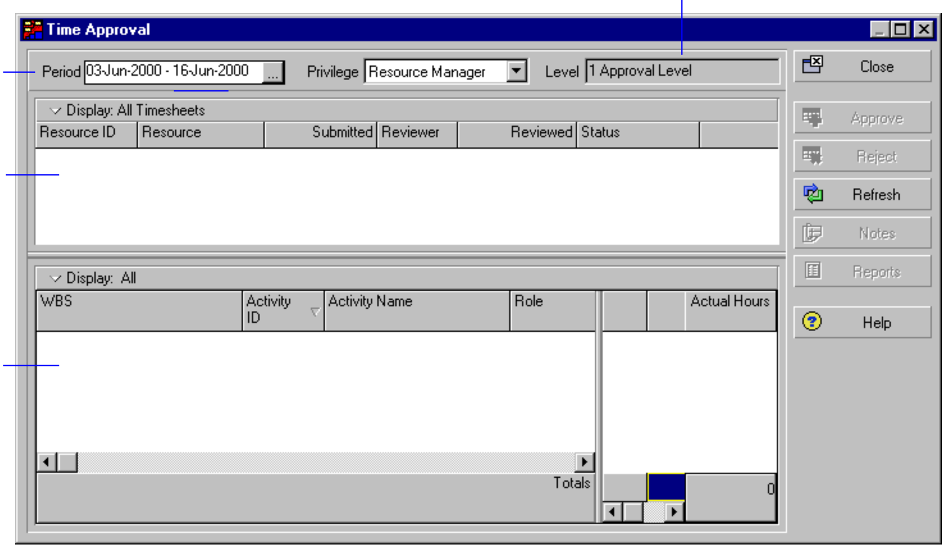
If you have approval privileges, select Project Manager or Resource Manager in the Privilege field. Select the resource whose timesheet you want to approve, then click Approve to update the project with activity progress or Reject to return a timesheet to a Progress Reporter user.

The security level corresponds to the privilege type currently displayed in the Privilege field.

Select a timesheet period.

Lists each resource with a timesheet for the selected period

Displays the timesheet information for the selected resource and timeperiod



You can choose the columns of information displayed for timesheets. In the lower layout, click the Display Options bar. Choose Columns, then choose one of the predefined sets of columns, or choose Customize to select specific columns. You can also group and sort timesheet information by activity, project, WBS, or role, and you can filter timesheets to display all activities, only regular activities, or only overhead activities.

If a resource's timesheet is unavailable, you can enter progress for assigned activities in P3e.

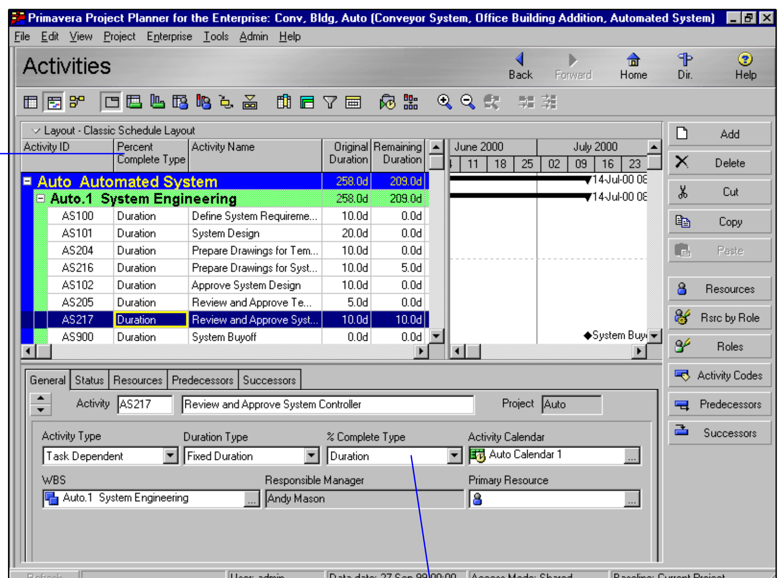
Updating Activities Manually

In addition to updating activities automatically or using timesheets, you can update data for each activity in P3e. Record actual dates, actual resource use, and costs incurred up to the data date or "time now." P3e provides different activity types, percent complete types, and duration types to accommodate your scheduling requirements. You should set these variables at the start of the project when you establish your update procedures.

For more information on defining activity and duration types, see the *Working with Activities* chapter.

Set percent complete type P3e can calculate an activity's percent complete according to activity duration, activity units, or a physical percent complete that you enter for each activity. Choose Project, Activities, and display the Activity Details General tab or add a column for Percent Complete Type in the Activity table.

You can add a column to review or modify the percent complete type.



Select the percent complete type for the activity.

Select the percent complete type based on how you report progress for the activity.

- Select Duration when activity progress can be easily reported in terms of actual calendar days of work remaining.

$$\text{Duration \% Cmp} = [(\text{Orig Duration} - \text{Rem Duration}) / \text{Original Duration}] \times 100$$

- Select Physical Percent Complete when activity progress can most easily be reported based on personal judgment. Enter the activity percent complete.
- Select Units when progress is best reported based on the work effort that has been accomplished and how much effort remains. Enter the actual and remaining units.

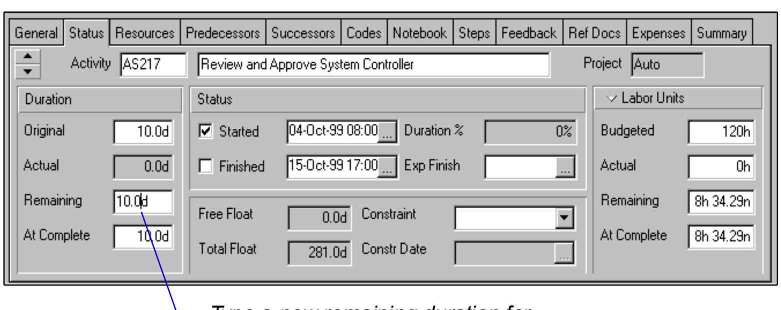
Units % Cmp = [Actual Units / At Completion Units] x 100

Update actual dates Once an activity is underway, update its start and finish dates and other status information. Choose Project, Activities and display the Activity Details Status tab. If the activity has actually started, mark the Started checkbox, then specify the actual start date in the Started field. If the activity is complete, mark the Finished checkbox, then specify the actual finish date in the Finished field.

To update any other activity data, such as remaining duration or actual units, you must first enter an actual start date for the activity.

Update activities with Duration percent complete type In the Activities window, select the activity to update and display the Activity Details Status tab. In the Remaining field, type the remaining number of workperiods needed to complete the selected activity. When you schedule or apply actuals, the actual duration is calculated as the total working time from the actual start date to the current data date (for in-progress activities) or to the actual finish date (for completed activities), using the activity's calendar.

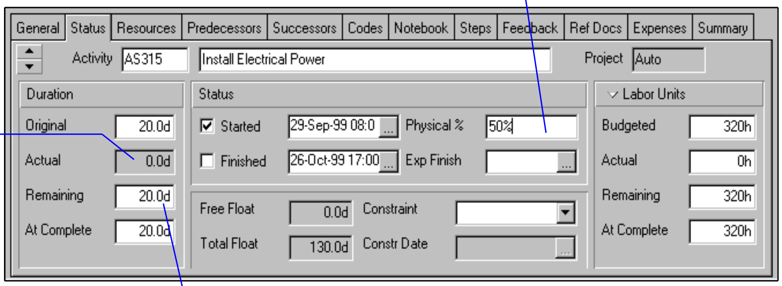
If resources are assigned to the activity, each resource's remaining units are calculated as the activity's remaining duration multiplied by its remaining units per time.



Type a new remaining duration for the activity.

Update activities with Physical percent complete type In the Activities window, select the activity to update and display the Activity Details Status tab. Enter the physical percent complete and the remaining duration for the activity. If resources are assigned, you must also update each resource's actual regular units.

Type the percent complete for the activity when the percent complete type is Physical.



P3e calculates the actual duration for the activity when you apply actuals or schedule the project.

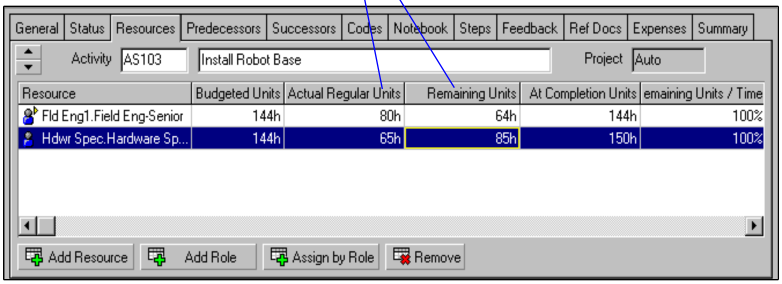
Type a new remaining duration for the activity.

Update activities with Units percent complete type If you are updating activities with the Units percent complete type, most likely your focus is on resource planning and scheduling. (You may also have specified the activity type as Resource Dependent and the Duration type as Fixed Units/Time.) You should update the labor units (and/or nonlabor units) for the activity, rather than the duration. If multiple resources are assigned to an activity, you should update each resource individually in the Resources tab. In the Activities window, select the activity to update and display the Activity Details Resources tab.

Actual Regular Units for a resource indicate the actual amounts without considering overtime units. Actual Units include Actual Regular Units plus Actual Overtime Units.

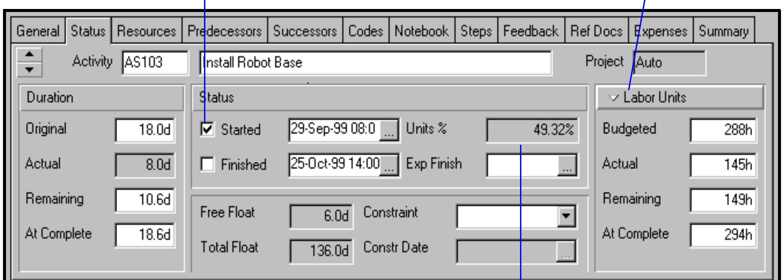
When you update activities manually, you should turn off Auto Compute Actuals settings; otherwise, your changes are overwritten when you apply actuals or calculate the schedule.

Update the actual regular units and the remaining units for each resource.



When you update units on the Resources tab, P3e automatically marks the Started checkbox in the Status tab.

The Labor Units amounts in the Status tab total the amounts for all resources assigned in the Resources tab.



The units % complete is calculated from the actual and at completion amounts.

How Activity Duration, Units, and Resource Units/Time Are Synchronized

P3e automatically synchronizes the duration, labor/nonlabor units, and resource units/time for activities so that the following equation is always true for each activity: Duration = Units / (Resource Units/Time). Since three variables are involved (duration, units, and units/time), when you change the value of one variable, P3e must alter the value of a second to balance the equation.

The Duration Type setting for an activity allows you to control how P3e synchronizes these variables when any one of the equation's variables are changed.

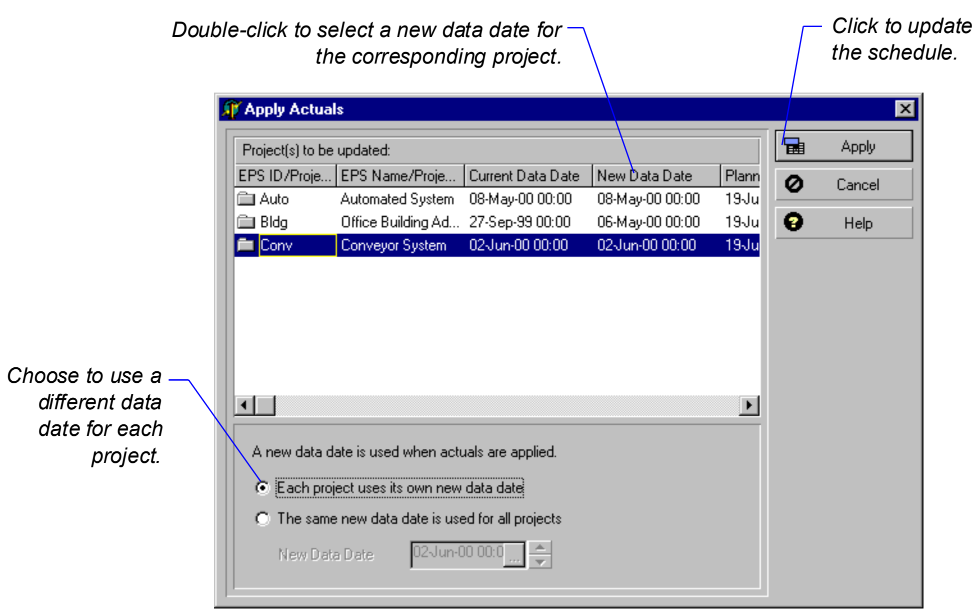
The following table lists the value that is automatically changed by P3e to synchronize these variables whenever the value of one of the duration type variables is changed.

Activity duration type	When you change units, P3e changes...	When you change duration, P3e changes...	When you change units/time, P3e changes...	When you add 2nd resource, P3e changes...
Fixed Units	Duration	Units/Time	Duration	Duration
Fixed Duration	Units/Time	Units	Units	Units
Fixed Units/Time	Duration	Units	Duration	Duration

Applying Actuals

Once progress is recorded by approving timesheets, entering actual data, and/or setting Auto Compute Actuals options, you must apply actuals in P3e. Applying actuals schedules activities with progress and/or that have the Auto Compute Actuals option set. When you apply actuals, you move the data date or “time now,” P3e schedules activities only within the specified timescale (between the current data date and new data date) and calculates progress for those activities that are set to automatically calculate actuals.

Apply actuals Open the project or EPS node that contains the projects to schedule. Choose Tools, Apply Actuals. If you opened an EPS node that contains multiple projects, you can choose to use the same data date for all projects and then specify the date, or you can choose to use a different data date for each project and then select the dates.



Scheduling Projects

P3e employs the Critical Path Method (CPM) scheduling technique to calculate project schedules. CPM uses activity durations and relationships between activities to calculate project dates. This process is performed in two phases or “passes” over the activities in a project.

The first pass or “forward pass” calculates the early start and early finish dates for each activity, based on the start or finish dates of predecessor activities as well as the duration of the activity itself. Depending on the settings of your schedule options, activity constraints may also affect the early start or early finish dates of activities.

The second pass or “backward pass” calculates the late start and late finish dates for each activity, based on the start or finish dates of successor activities as well as the duration of the activity itself. Depending on the settings of your schedule options, activity constraints may also affect the late start or late finish dates of activities. The free float and total float for each activity are recalculated.

In P3e you can schedule one project or all projects in a particular EPS node.

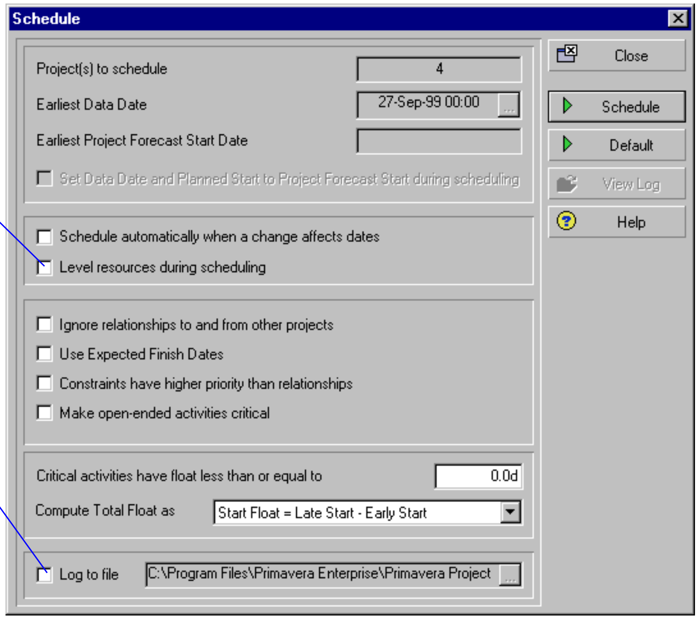
To display and/or use P3e’s default scheduling settings, click Default in the Schedule dialog box.

Schedule a project Open an individual project or the node that contains the projects you want to schedule. Choose Tools, Schedule. The top portion of the Schedule dialog box lists the number of projects to be scheduled, along with the earliest data date of all open projects. You can change the data dates for individual projects when you apply actuals (choose Tools, Apply Actuals.)

For more information on additional scheduling options, refer to the online help.

A forecast start date is shown if you manually changed the start date of a project by dragging the project bar to a new timeframe in Portfolio Analyst or Tracking layouts. You can choose to use this new date instead of the project’s planned date and current data date when you schedule the project. Mark the Set Data Date and Planned Start to Project Forecast Start During Scheduling option. If multiple projects are open, each with a project forecast start date, P3e uses the forecasted start date from each project during scheduling.

Select the scheduling options, then click Schedule.



Mark to level resources while scheduling the open project(s).

Mark to record your scheduling results in a log file, then click the Browse button to specify a filename and location.

Automatic scheduling and leveling P3e can also calculate the schedule each time activity data change, rescheduling activities that have changed significantly and rescheduling any activities affected by the change to the first activity. If automatic scheduling is turned on, P3e recalculates the schedule each time a significant change is made to an activity, relationship, or resource. If you turn off automatic scheduling, changes to activities will not be reflected in the schedule until you calculate the schedule again. P3e can also level resources during automatic scheduling.

After the forward pass, if a Must Finish by Date is specified in the Project Details Dates tab, P3e calculates the backward pass using the must finish by date rather than the schedule end date.

Types of Activity Dates

Date Field	Definition
Start	The current start date of the activity. Set to the planned start date until the activity is started, then set to the actual start date. An ‘A’ after the Start value indicates that it is the Actual Start; an ‘*’ indicates that a Start constraint is applied to the activity.
Finish	The current finish date of the activity. Set to the activity planned finish date while the activity is not started, the remaining finish date while the activity is in progress, and the actual finish date once the activity is completed. An ‘A’ after the Finish value indicates that it is the Actual Finish; an ‘*’ indicates that a Finish constraint is applied to the activity.
Actual Start	The date on which the activity actually started.
Actual Finish	The date on which the activity actually finished.
Early Start	The earliest possible date the remaining work for the activity can begin. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Early Finish	The earliest possible date the activity can finish. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Late Start	The latest possible date the remaining work for the activity must begin without delaying the project finish date. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Late Finish	The latest possible date the activity must finish without delaying the project finish date. This date is calculated by the project scheduler based on activity relationships, schedule constraints, and resource availability.
Planned Start	The date the activity is scheduled to begin. This date is set equal to the early start date by the project scheduler but can be updated manually by the project manager. This date is not changed by the project scheduler after the activity has started.
Planned Finish	The date the activity is scheduled to finish. This date is set equal to the early finish date by the project scheduler but can be updated manually by the user. This date is not changed by the project scheduler after the activity has started.
Remaining Start	The date the remaining work for the activity is scheduled to begin. This date is calculated by the project scheduler but can be updated manually by the user. Before the activity is started, the Remaining Start is the same as the Planned Start. This is the start date that Progress Reporter users follow.
Remaining Finish	The date the remaining work for the activity is scheduled to finish. This date is calculated by the project scheduler but can be updated manually by the user. Before the activity is started, the Remaining Finish is the same as the Planned Finish. This is the finish date that Progress Reporter users follow.
Expected Finish	The date the activity is expected to finish. Typically, this date is entered in Progress Reporter by the primary resource. When scheduling your project(s), you may choose to use or ignore the Expected Finish dates.
Constraint Date	The date for which the activity’s constraint applies. Depending on the constraint type, this date could be a start or finish date. For example, for a Finish On constraint, the constraint date is the date on which the activity must finish. If the activity does not have a constraint, this field will be empty.

Leveling Resources

Level resources in your projects to ensure that resource demand does not exceed resource availability. Resource leveling is an automated process that changes the start of certain activities. During leveling, P3e compares the resource requirements of all scheduled activities to the maximum quantity available at the time of leveling. An activity is delayed if too few resources are available at any time during the activity's duration.

P3e does not include expenses when leveling resources.

You can select the resources to be leveled, and you can add leveling priorities that specify which project or activity is leveled first when a conflict occurs.

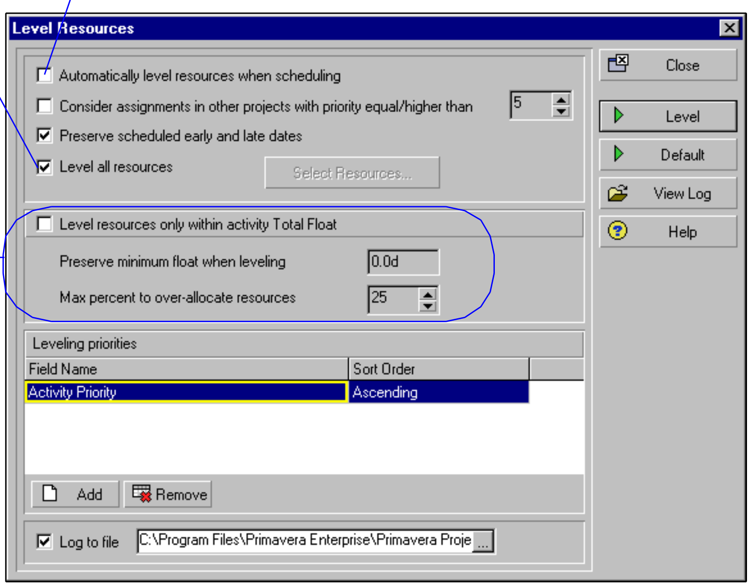
The maximum amount of work that a resource is capable of performing for a given timeperiod is defined by the resource's Max Units/Time in the Units & Prices tab in the Resources window.

Level resources Choose Tools, Level Resources. You can set several resource leveling options to meet your requirements. Click Level after you make your selections.

Mark to automatically level resources each time you schedule a project.

Mark to level all resources, or clear and click Select Resources to specify the resources to be leveled.

Mark to delay activities with resource conflicts only up to their late finish dates, then type the minimum amount of total float and specify the maximum percentage by which the resource availability can be increased.



For example, if resources are assigned across multiple projects, you can determine whether to consider the resource assignments in other projects when leveling. A leveling priority number is assigned to each project when you add the project (in the Projects Details General tab.) In the Level Resources dialog box, mark the checkbox to consider assignments in other projects and specify the priority value you want to consider.

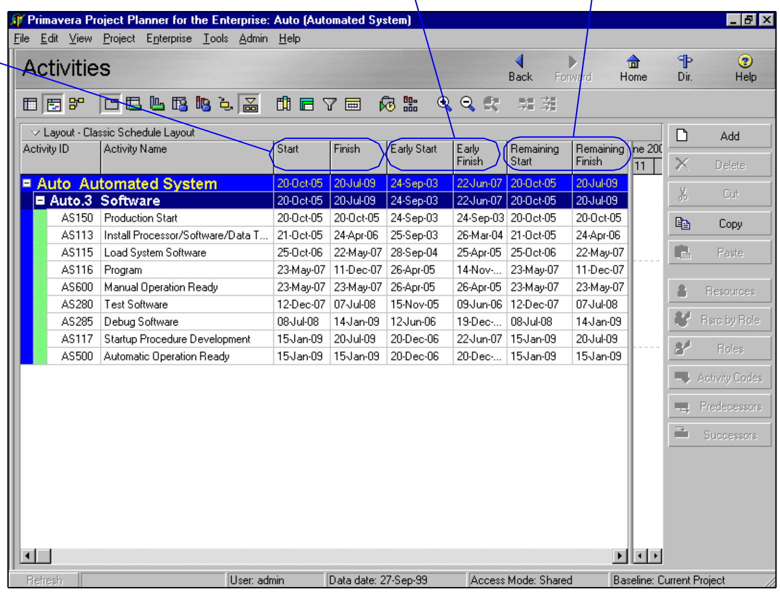
For more information on leveling options, see the online help.

If you mark the Preserve Scheduled Early and Late Dates checkbox, P3e retains the project's current early dates before leveling. To review the leveled early dates, choose to show the Remaining Start/Finish dates or the Start and Finish dates. In addition when you preserve these dates, P3e only forward levels the schedule, which means that the early dates of activities from the start to the finish of the project are scheduled.

When preserving early and late dates, shows early dates before leveling

Shows leveled dates

Shows leveled dates



If you clear the Preserve Scheduled Early and Late Dates checkbox, P3e also performs backward leveling. Backward leveling schedules activities to occur as late as possible without delaying the project finish. P3e reverses the leveling process, beginning at the project's late finish and working towards the beginning of the project. If insufficient resources are available to schedule an activity on its late dates, P3e advances the activity to an earlier date. When P3e forward and backward levels the schedule (by clearing the checkbox to preserve scheduled early and late dates), the project's early and late start/finish dates are updated.

Prioritize activities during leveling To handle scheduling conflicts that may occur during leveling, you can add priorities that specify which project or activity is leveled first. In the Leveling Priorities section of the Level Resources dialog box, click Add. P3e adds a blank leveling priority to the list of leveling priorities. Select the type of priority, then select the order in which the item specified in the priority will be leveled. Add priorities in the order in which you want P3e to consider them.

To remove a priority, select it, then click Remove. To change the information specified for a priority, double-click the Field Name column, then select a new field name and/or double-click the Sort Order column, then select Ascending or Descending.

Leveling priority definitions The following table defines the priority and order options you can specify for leveling resources.

Priority	Ascending (Lower)	Descending (Higher)
Activity Priority	Levels higher priority activities first	Levels lower priority activities first
Project Priority	Levels higher priority projects first	Levels lower priority projects first
Planned Start Date	Levels activities with earlier planned start dates first	Levels activities with later planned start dates first
Planned Finish Date	Levels activities with earlier planned finish dates first	Levels activities with later planned finish dates first
Original Duration	Levels activities with shorter original durations first	Levels activities with longer original durations first
Remaining Duration	Levels activities with shorter remaining durations first	Levels activities with longer remaining durations first
Total Float *	Levels activities with less total float or more critical activities first	Levels activities with more total float or less critical activities first
Early Start Date *	Levels activities with earlier, early start dates first	Levels activities with later, early start dates first
Early Finish Date *	Levels activities with earlier, early finish dates first	Levels activities with later, early finish dates first
Late Start Date *	Levels activities with earlier, late start dates first	Levels activities with later, late start dates first
Late Finish Date *	Levels activities with earlier, late finish dates first	Levels activities with later, late finish dates first

* Indicates that the priority is available only if you mark the Level Resources Only Within Total Float checkbox in the Level Resources dialog box.

Summarizing Projects

In this chapter:

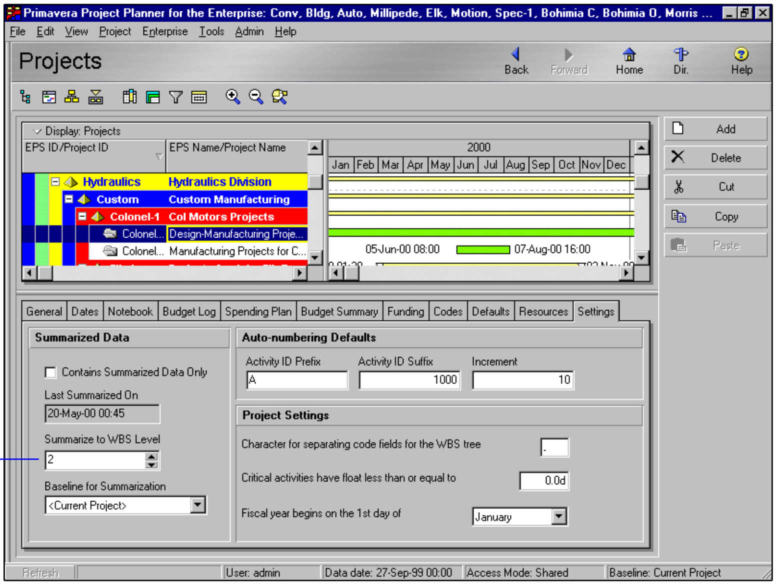
In P3e you can summarize and save resource quantity, cost, and/or custom user field information from an enterprise project structure (EPS) node or a project's work breakdown structure (WBS). You can then view summary data such as original budget and other cost values at various levels of the EPS in P3e, Portfolio Analyst, and Primavision.

This chapter explains how to summarize data "on-the-fly" or at a regularly scheduled interval you specify.

Setting Summarization Options

Before you can summarize information in P3e, you need to specify which projects P3e should summarize and the work breakdown structure (WBS) level to which you want data summarized. For example, you may want to analyze only specific projects in the enterprise project structure (EPS) or concentrate on information that resides at a particular WBS level or below.

Set summarization options Choose Enterprise, Projects. Select the project you want to summarize. Click the Settings tab. In the Summarize to WBS Level field, specify the maximum WBS level to which the project can be summarized. When summarizing baseline project data, select the baseline to use in the Baseline for Summarization field.



This number indicates the level to which others will be able to drill down within Primavision and Portfolio Analyst.

The Last Summarized On field displays the date when data were last summarized for the project.

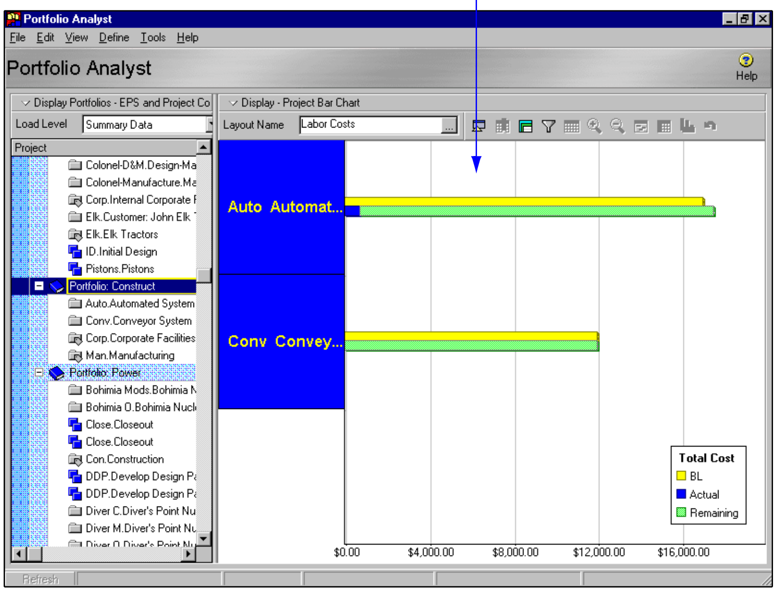
Mark the Contains Summarized Data Only checkbox if you plan to link to project data in other applications.

Summarizing Projects

In P3e you can summarize data at any time, using the Tools, Summarize command, or you can use the Job Services option to schedule a time when data are regularly summarized. For example, set P3e to summarize every Monday at 8:00 a.m. In each case, P3e summarizes project data according to the settings you specify and saves the new summary values to the project database, overwriting any previously calculated summary data.

You can view and report on summarized data in P3e, Primavision, and Portfolio Analyst.

View summary data to quickly see the bottom line in Portfolio Analyst.



Summarize project data manually Choose Enterprise, Projects. Choose Tools, Summarize, then select to summarize Open P3e Projects in the current view, All P3e Projects in the EPS (both open and closed), or Summary Only Projects (those projects for which the Contains Summarized Data Only checkbox is marked in the Project Details Settings tab).

You can also summarize a single project or a specific group of projects. Select the projects you want to summarize in the EPS, then right-click and choose Summarize Project. Click Yes.

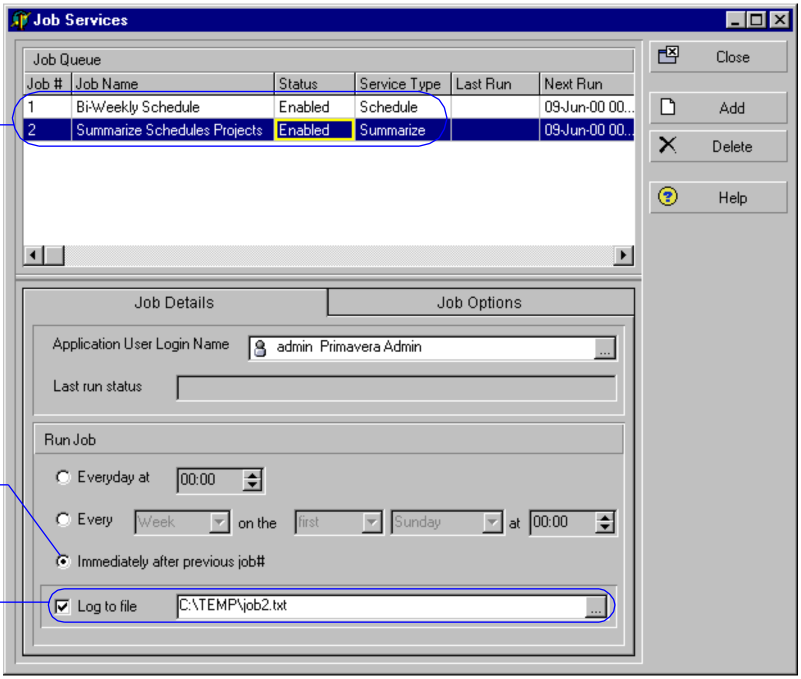
If you choose to summarize all P3e projects, P3e also summarizes data for each EPS node after the project summaries are saved to the database.

Summarize project data as a service Choose Tools, Job Services, then click Add. Select Summarize in the Service Type field. Specify a number in the Job # field to indicate the sequence in which P3e should perform the service, if more than one service is listed. Type a brief description of the service in the Job Name field. In the Status field, select Enabled to activate the summary service. You can suspend a service at any time by selecting Disabled in the Status field. In the Run Jobs area, schedule when the service should be run: Everyday at a specific time, or every week, two weeks, or month on a day and time you specify.

In this example, projects are scheduled and then summarized at the end of each two-week period.

Mark to summarize projects immediately after they are scheduled.

Mark to log information about the service to a file you specify.



You must have the appropriate access rights to set up job services.

How P3e Summarizes Data

P3e enables you to summarize data for all projects in the EPS. Summary information is calculated and displayed for costs and quantities, custom user fields, dates, durations, float, progress, baselines, variances, and special cases for activity, resource, and cost data. The following paragraphs explain how P3e summarizes specific data .

Costs and quantities P3e totals cost and quantity data items, such as budgeted cost and budgeted quantity, by adding the values for each activity in the summary.

Custom user fields P3e summarizes user fields according to type. For example, items representing start dates show the earliest start date, and items for finish dates show the latest finish dates. A numeric user field is totaled for the summarized activities. A text-based custom user field displays a blank unless values for all activities are the same.

Dates If you display early dates, P3e shows the earliest early (or actual) start date and the latest early (or actual) finish date. The same rules apply for late dates and baseline early and late dates.

Durations P3e summarizes original and remaining duration values. For activities with no progress, the original and remaining durations are the number of workperiods between the earliest early start and the latest early finish dates.

If the summary activity has an actual start date, P3e calculates the original duration from the actual start date to the latest early finish date; the remaining duration is calculated from the “internal” early start date to the latest early finish date.

(P3e keeps track of the early start date for each activity, even when you assign an actual start date; this is referred to as the “internal” early start date of the remaining duration.)

If the summary activity is 100 percent complete, P3e calculates the original duration as the difference between the actual start date and the actual finish date; the remaining duration is zero.

Float You can base total float of the summarized data on the start dates, finish dates, or most critical dates. To set this option, choose Tools, Schedule, then select how you want to calculate total float in the Compute Total Float As field.

Progress The simplest measure of percent complete uses duration to compare the amount of time remaining to complete the activities to their original duration. In this case, P3e uses the following ratio for each summarized group:

[(Summary Current Planned Duration - Summary Remaining Duration) / Summary Current Planned Duration] x 100

Baseline data, comparison data, and variances You classify each baseline, comparison, or variance data item as either a date or a duration data item. See the *Dates and Durations* sections earlier on this page.

Project Issues and Thresholds

In this chapter:

Issues are known problems within a project plan that require attention or corrective action. In P3e, you can manually create issues and you can generate issues automatically by defining project thresholds. You can associate these issues with work breakdown structure (WBS) elements, activities, or resources.

Create a threshold in P3e by selecting a parameter, such as start date variance; setting a lower threshold value for the threshold, such as -2 days; and applying the threshold to a specific WBS element, or area, of your project plan. After you define a threshold, P3e monitors and generates the threshold's issues for you.

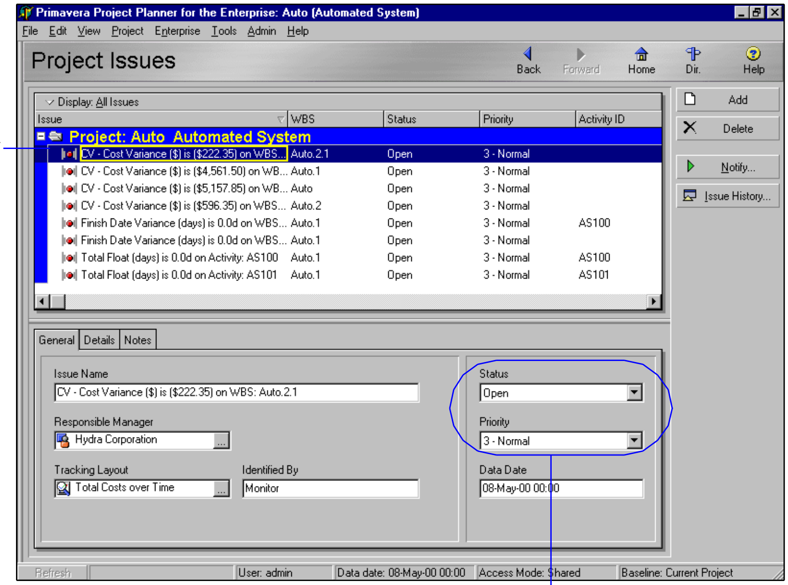
This chapter describes how to add issues and thresholds and use them to help you manage your projects.

Adding Issues

Issues identify problems within a schedule that must be addressed before the project can be completed. Issues can be added manually to projects, or you can use thresholds to generate them automatically. (See *Adding Thresholds* later in this chapter.) Once you create an issue in P3e, you can assign a priority level, tracking layout, and responsible manager to it. You can also e-mail the issue's details, along with your comments, to any member of the project's staff. Use P3e's Issue Navigator feature to quickly view all the information associated with an issue.

Add an issue Choose Project, Issues. If Issue Details are not displayed, click the Display Options bar, then choose Issue Details (the box next to the command should be marked). Click Add, then click the General tab. Type the issue's name. Select the manager responsible for addressing the issue. Responsible managers are defined in the organizational breakdown structure (OBS). Click the Browse button in the Tracking Layout field to select the layout that best displays the issue. Your user name is automatically entered in the Identified By field. You can type another user name of the individual who identified the issue. If the issue was generated by running the threshold monitor, Monitor is displayed.

You can group and sort issues by various detail items, such as project, EPS, or WBS. Click the Display Options bar, then choose Group and Sort By.



The issue status is automatically set to Open and the priority is set to Normal. Change these fields as required.

You can only modify fields in the Details tab for issues you have added; these fields are Read-Only if the issues are generated by a monitoring threshold.

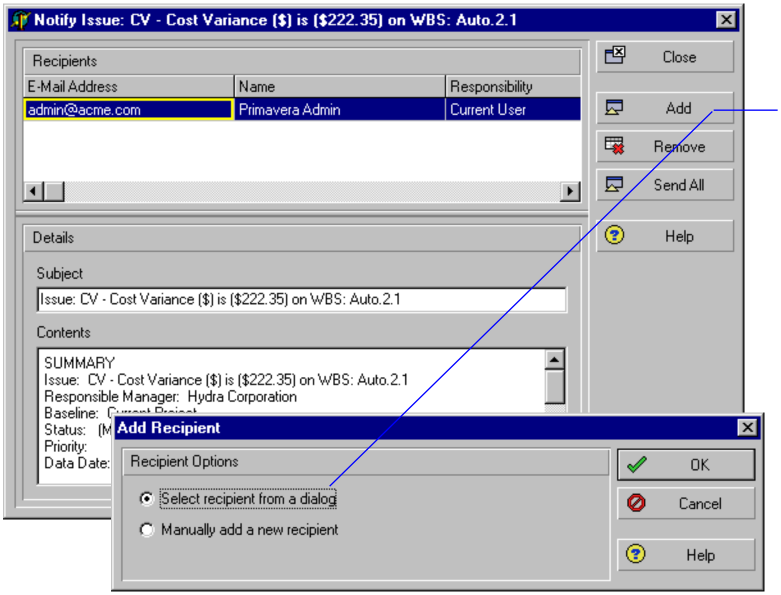
Define an issue's details and add notes Choose Project, Issues. Click the Details tab, then type the issue's actual (numeric) value in the Actual Value field. To associate the issue with a WBS element other than the root WBS element, click the Browse button in the Applies to WBS field and select the element. You can also associate the issue with a resource or activity.

To enter additional information about the issue, click the Notes tab, then type your notes. You can use HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

If the threshold monitor generated the selected issue, the parameter name is listed in the Threshold Parameter field in the Details tab.

To change the list of recipients, click the Display Options bar on the Assign Recipients dialog box, and choose Resources or Users.

Send e-mail about an issue In the Project Issues window or the Issue Navigator dialog box (choose Tools, Issue Navigator), select the issue about which you want to send e-mail, then click Notify. To specify the individuals to whom you want to send e-mail, click Add. Choose Select Recipient from a Dialog to select a recipient from a list of resources or P3e users, click OK, then select a recipient from the Assign Recipients dialog box. Click the Assign button. To remove a recipient from the recipient list, select the recipient, then click Remove.



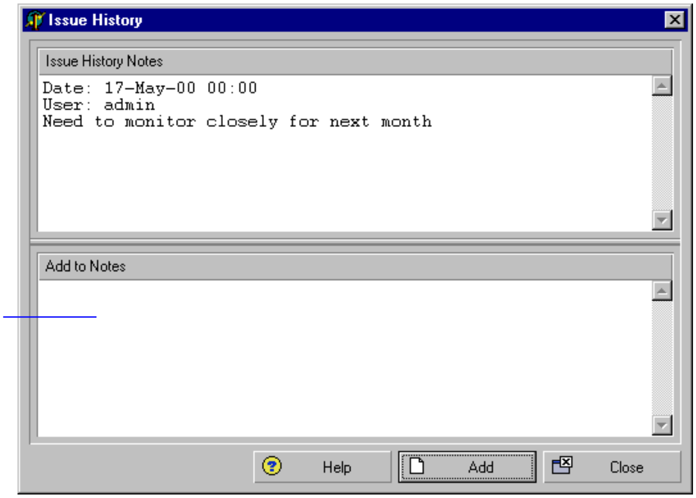
Click to add recipients to the e-mail, then choose how you want to select recipients.

To type a recipient's e-mail address directly, choose Manually Add a New Recipient, click OK, then type the recipient's information.

Type a subject for the e-mail, then type any additional comments about the issue in the Contents area. Click Send All.

View and add to an issue's history Choose Project, Issues. Select an issue, then click Issue History.

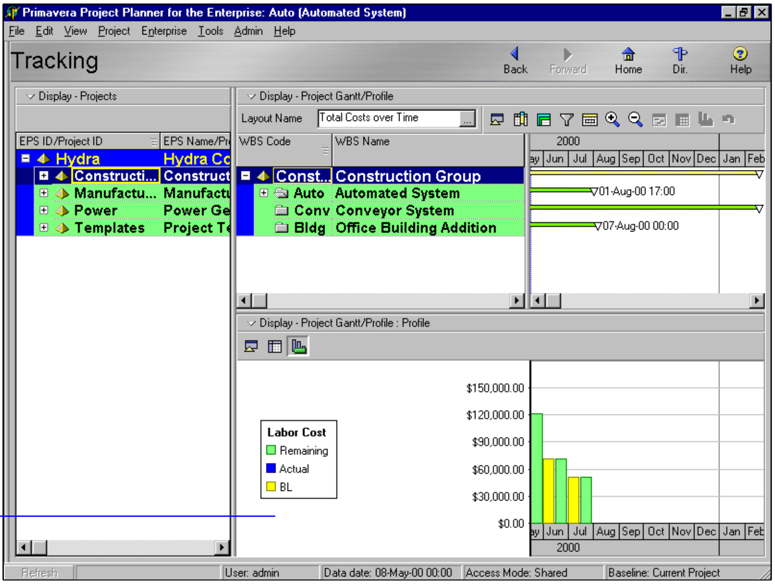
Type any additional comments about the issue, then click Add.



Assigning Tracking Layouts to Issues

Assign a tracking layout to an issue to graphically display the information surrounding the issue, then use the Issue Navigator (choose Tools, Issue Navigator) to open this layout in the Tracking window.

Assign a tracking layout to an issue Choose Project, Issues. If Issue Details are not displayed, click the Display Options bar, then choose Issue Details (the box next to the command should be marked). Select the issue to which you want to assign a tracking layout. Click the General tab, then click the Browse button in the Tracking Layout field. Select the tracking layout you want to assign, then click the Select button.



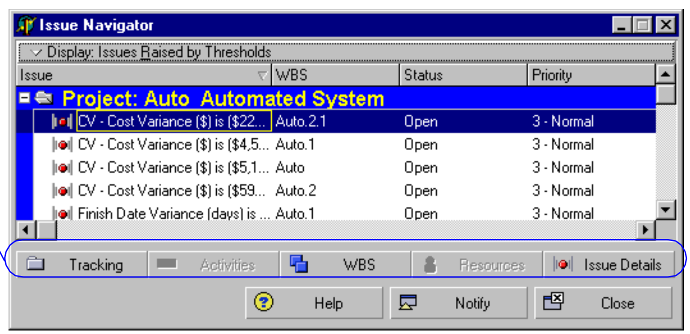
This tracking layout shows total costs over time.

Using the Issue Navigator

The Issue Navigator helps to provide you with the information you need regarding a particular issue so you can quickly resolve it. Select an issue that you added or was generated automatically and choose to jump to its associated tracking layout; activity, WBS, or resource assignment; or more details. You can also send an e-mail to notify other users about the issue.

Use the Issue Navigator Choose Tools, Issue Navigator. Select the issue whose details you want to view, click the appropriate button to display the information you want to view about the issue. For example, click Tracking to immediately display the Tracking window already open to the issue's associated tracking layout. The associated tracking layout, activity, WBS, and/or resource for an issue are specified in the Issues window (if manually entered), or in the Thresholds window (if generated automatically).

If a button is unavailable, it means the issue is not associated with that topic.



You can automatically display the Issue Navigator each time you open P3e. Choose Edit, User Preferences, then click the Application tab. Mark the Show the Issue Navigator Dialog at Startup checkbox.

Adding Thresholds

Project thresholds consist of parameters assigned to WBS elements; they are used to monitor projects and generate issues in P3e. For example, you may set a threshold with the Cost % of Planned parameter and an upper threshold value of 100 percent. When the actual cost of the specified WBS element reaches 100 percent of the planned cost, P3e generates an issue.

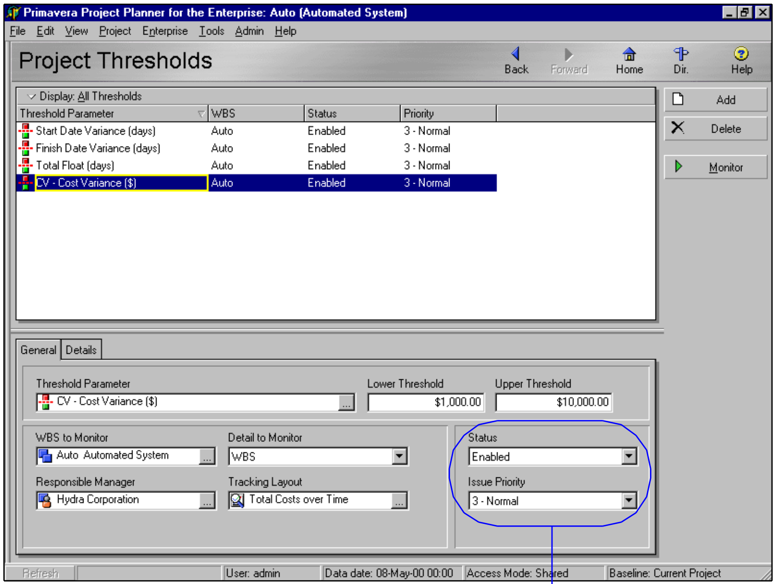
You can assign thresholds to WBS elements at the activity or WBS level. If you monitor a project at the WBS activity level, P3e reviews and reports issues for each activity that violates the threshold. If you monitor a project at the WBS level, P3e reviews and reports the WBS summary level data rather than at the activity level. For example, if an activity within a particular WBS level has a start date variance of -1, but the start date variance at the WBS level is 0, an issue is not generated even though you may be monitoring for a lower threshold of -1.

For more information about each parameter, see the *Threshold Parameter Definitions* section later in this chapter.

Add a threshold Choose Project, Thresholds. If Threshold Details are not displayed, click the Display Options bar, then choose Threshold Details (the box next to the command should be marked). Click Add, then click the General tab. Select a threshold parameter. For example, enter -2 days for a total float threshold, which means that you want to be notified if any WBS element/activity has a total float less than or equal to 2 days (critical). If you enter a lower and upper threshold limit, an issue is generated for any WBS element/activity that falls outside the specified range. For example, if you entered 10 days as the upper limit to the float threshold, you are notified when any WBS element/activity has a total float less than or equal to 2 days and greater than or equal to 10 days. P3e automatically enters the type of value that corresponds to the selected threshold.

Select the WBS element you want the threshold to monitor, then select whether to monitor it at the WBS or activity level. If you select activity, the threshold will review activities in the specified WBS and in lower-level elements of that WBS.

The manager responsible for addressing the issues generated by the threshold is automatically assigned when you select a WBS element. Responsible managers are defined in the OBS. Click the Browse button in the Tracking Layout field to select the layout that best displays the threshold problem area.



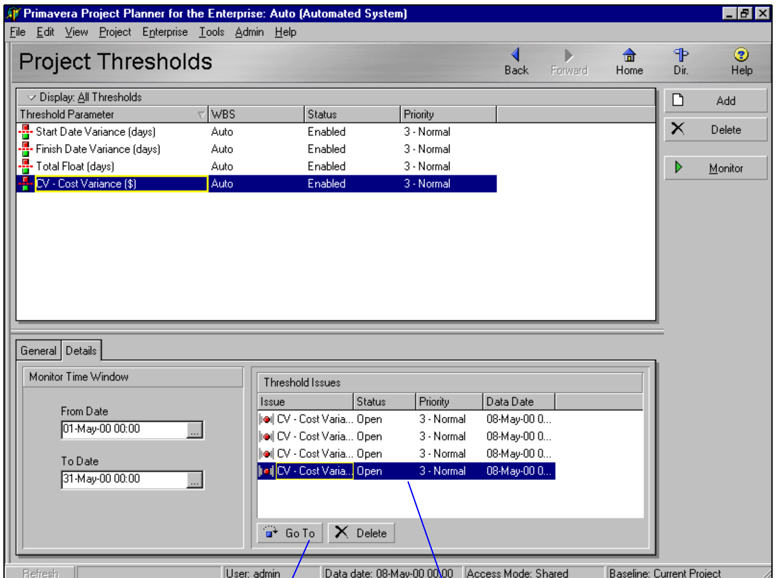
The threshold status is automatically set to Enabled. If you do not want to use it to monitor the project, select Disabled. You can also change the threshold's issue priority.

Specify the timespan to monitor Choose Project, Thresholds. Select the threshold whose details you want to define, then click the Details tab. Click the Browse button in the From and To Date fields and select the dates for which the threshold should monitor WBS elements or activities. P3e checks only those WBS elements or activities whose start dates are after the From date and whose finish dates are before the To date.

To monitor all defined thresholds, choose Tools, Monitor Thresholds.

Monitor the threshold Once you define a threshold parameter, you need to monitor it to generate any applicable issues. In the Project Thresholds window, select the threshold you want to monitor, then click Monitor. A list of any issues generated are displayed in the Details tab.

View threshold issues You can quickly view the issues generated by a particular threshold. Select the threshold whose issues you want to review, then click the Details tab. Select the issue whose details you want to view, then click Go To.



Click to jump to the Issues window for the selected issue.

View a list of issues for the selected threshold.

Group, sort, and filter thresholds From the Thresholds window, click the Display Options bar, then choose Filter By or Group and Sort By and the option that describes how you want to view thresholds.

Threshold Parameter Definitions

A threshold consists of a parameter, or type, and a lower and/or upper threshold value. P3e generates an issue automatically when a threshold parameter is below or equal to the lower threshold or equal to or above the upper threshold value.

The following paragraphs define the available threshold parameters.

Actual Cost is sometimes referred to as ACWP, Planned Value Cost is sometimes referred to as BCWS, and Earned Value Cost is sometimes referred to as BCWP.

Accounting Variance (AV) An Accounting Variance (AV) threshold value is expressed as a monetary value. An issue is generated if the Accounting Variance (the difference between the activity's budgeted cost according to the schedule and the actual cost of performing the activity) falls beyond the threshold values.

Accounting Variance is computed as AV = Planned Value Cost - Actual Cost.

A negative value indicates that actual costs have exceeded the scheduled costs. A positive value indicates that actuals costs have not reached the scheduled costs.

If the lower threshold value is zero, an issue is generated as soon as actual costs are greater than scheduled costs.

Cost % of Budget Cost % of Budget threshold values are expressed as a percentage. An issue is generated if the ratio of the activity's actual cost to its budgeted cost (actual cost / budgeted cost * 100) falls beyond the threshold values.

Actual cost is the same as Actual Cost, and budgeted cost is the same as Budget at Completion (BAC).

The Cost % of Budget will reach 100 percent when the actual cost reaches the budgeted cost. The Cost % of Budget may be greater than 100 percent.

CPI - Cost Performance Index A Cost Performance Index (CPI) threshold value is expressed as a ratio. An issue is generated if the CPI falls beyond the threshold values.

The Cost Performance Index is computed as CPI = Earned Value Cost / Actual Cost. A value less than one indicates that actual costs have exceeded the value of work performed.

If the lower threshold value is one, an issue is generated whenever the actual costs exceed the value of the work performed.

Cost Variance (CV) A Cost Variance (CV) threshold value is expressed as a monetary value. An issue is generated if the CV (the difference between the activity's earned value and the actual cost of performing the activity) falls beyond the threshold values.

Cost Variance is computed as CV = Earned Value Cost - Actual Cost. A negative value indicates that actual costs have exceeded the value of work performed, which may be considered a cost overrun.

If the lower threshold value is zero, an issue is generated as soon as actual cost of the work is greater than the value of the work. A larger negative value for the threshold indicates that a certain amount of cost overrun may be tolerated before an issue is generated.

Cost Variance Index (CVI) A Cost Variance Index (CVI) threshold value is expressed as a ratio. An issue is generated if the CVI (the ratio of the cost variance to the earned value of work performed) falls beyond the threshold values.

The Cost Variance Index is computed as CVI = Cost Variance (CV) / Earned Value Cost.

A value less than zero indicates that actual costs have exceeded the value of work performed.

If the lower threshold value is zero, an issue is generated whenever the actual costs exceed the value of the work performed.

Duration % of Original A Duration % of Original threshold value is expressed as a percentage. An issue is generated if the ratio of the activity's actual duration to its original duration (actual duration / original duration * 100) falls beyond the threshold values.

The ratio of actual duration to original duration may be greater than 100.

Finish Date Variance A Finish Date Variance threshold value is a specified number of days. An issue is generated if the difference between the activity's planned and current finish date (calculated as Planned Finish Date - Finish Date) falls beyond the threshold values.

If an activity's status is Not Started or Active, then the Finish date will be the Planned Finish date, and the finish date variance is always zero. If an activity's status is Completed, then Finish date is the actual finish date.

A negative value for Finish Date Variance indicates that the current finish date is later than the planned finish date.

Free Float A Free Float threshold value is a specified number of days. An issue is generated if an activity's free float (the amount of time the activity can be delayed without delaying the Early Start of any successor activity) falls beyond the threshold values.

Free Float threshold monitoring can only be applied at the activity level, not at the WBS level.

Schedule Performance Index (SPI) A Schedule Performance Index (SPI) threshold value is expressed as a ratio. An issue is generated if the Schedule Performance Index (the ratio of the earned value of work performed to the budgeted cost of work that was scheduled) falls beyond the threshold values.

The Schedule Performance Index is computed as SPI = Earned Value Cost / Planned Value Cost. A value less than one indicates that less work was actually performed than was scheduled.

If the threshold value is one, an issue is generated whenever the value of the work performed falls below the expected cost of performing that work, according to the schedule.

Start Date Variance A Start Date Variance threshold value is a specified number of days. An issue is generated if the difference between the activity's planned and current start dates (calculated as Planned Start Date - Start Date) falls beyond the threshold values.

If an activity's status is Not Started, then the Start date will be the Planned Start date, and the start date variance is always zero. If an activity's status is Started or Completed, then Start date is the actual start date.

Schedule Variance (SV) A Schedule Variance (SV) threshold value is expressed as a monetary value. An issue is generated if the Schedule Variance (the difference between the activity's earned value and the planned value) falls beyond the threshold values.

Schedule Variance is computed as SV = Earned Value Cost – Planned Value Cost. A negative value indicates that less work was actually performed than was scheduled. The activity may be considered behind schedule.

If the threshold value is zero, an issue is generated as soon as the earned value of the work performed falls below the amount of work that was supposed to be performed, according to the schedule. A larger negative value for a Schedule Variance threshold indicates that an activity may be behind schedule by that amount before an issue is generated.

Schedule Variance Index (SVI) A Schedule Variance Index (SVI) threshold value is expressed as a ratio. An issue is generated if the Schedule Variance Index (the ratio of the schedule variance to the planned value) falls beyond the threshold values.

The Schedule Variance Index is computed as SVI = Schedule Variance (SV) / Planned Value Cost. A value less than zero indicates that the value of the work performed is less than what was scheduled.

If the threshold value is zero, an issue is generated whenever the value of the work performed falls below the expected cost of performing that work, according to the schedule.

Total Float A Total Float threshold value is a specified number of days. An issue is generated if an activity’s total float (the amount of time the activity can be delayed without delaying the project finish date) falls beyond the threshold values.

Variance at Completion (VAC) A Variance at Completion (VAC) threshold value is expressed as a monetary value. An issue is generated if the Variance At Completion (the budgeted total cost - latest total cost estimate) falls beyond the threshold values.

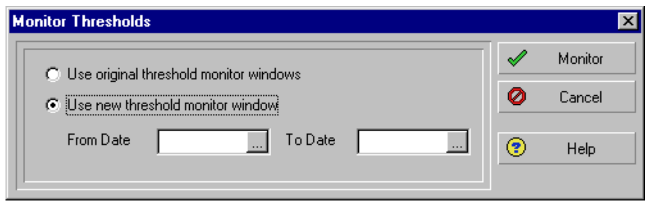
Variance At Completion may also be expressed as VAC = Budget at Completion (BAC) - Estimate At Completion (EAC).

A negative value indicates an estimated total cost overrun. If the threshold value is zero, an issue is generated as soon as the latest estimate for total cost exceeds the planned total cost. A larger negative value for a Variance At Completion threshold indicates that a certain amount of estimated total cost overrun may be tolerated before an issue is generated.

Monitoring Thresholds

You can run all the thresholds assigned to a project at one time, or you can run only individual thresholds as needed.

Monitor all thresholds at once When the project is open, choose Tools, Monitor Thresholds. To use the timeperiod specified for each threshold, choose Use Original Threshold Monitor Windows. To specify a new timeperiod that will apply to all thresholds, choose Use New Threshold Monitor Window, then click the Browse buttons in the From Date and To Date fields to select a new set of dates. Click Monitor.



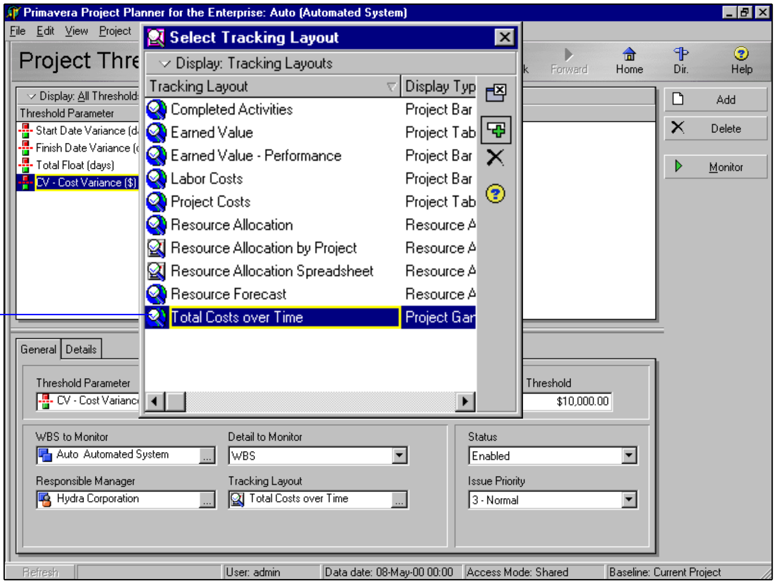
Monitor a specific threshold Choose Project, Thresholds. Select the threshold you want to monitor. Click Monitor.

You cannot monitor a threshold whose status is Disabled. To change a threshold's status, double-click the status you want to change in the Project Thresholds window.

Assigning Tracking Layouts to Thresholds

Assign a tracking layout to a threshold to graphically display the information surrounding the threshold and the issues it generates, then use the Issue Navigator (choose Tools, Issue Navigator) to open this layout in the Tracking window.

Assign a tracking layout to a threshold Choose Project, Thresholds. If Threshold Details are not displayed, click the Display Options bar, then choose Threshold Details (the box next to the command should be marked). Select the threshold to which you want to assign a tracking layout. Click the General tab, then click the Browse button in the Tracking Layout field. Select the tracking layout you want to assign, then click the Select button.



Select the tracking layout to associate with the threshold when an issue is generated. Any issues that are generated are displayed using this tracking layout.

Managing Risks

In this chapter:

P3e contains an integrated risk management feature that enables you to identify, categorize, and prioritize potential risks associated with specific work breakdown structure (WBS) elements and resources. You can also create risk control plans and assign a probability of occurrence and an organizational breakdown structure (OBS) element to each risk. A risk's assigned OBS element is the person or project manager responsible for managing the risk.

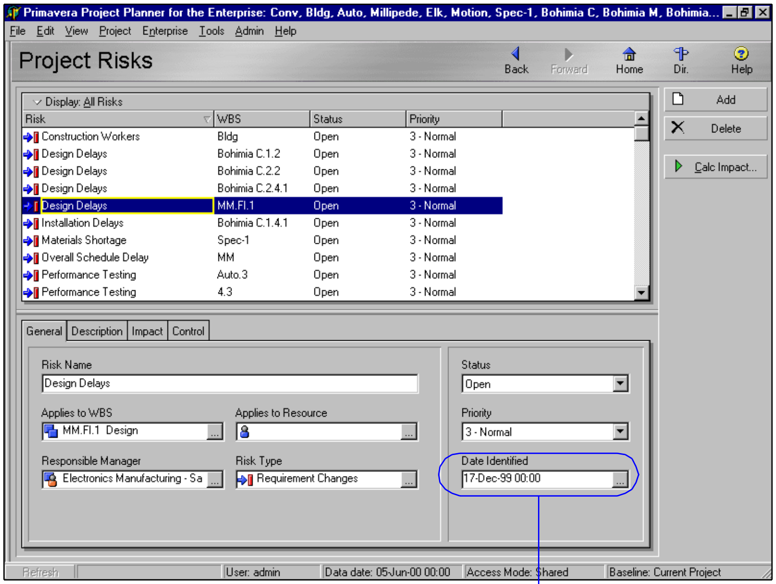
This chapter describes how to add risks and risk types, calculate a risk's impact, and customize how you view risks.

Adding Risks

Identify a risk by entering its name, status, risk type, priority level, and date it was identified. You can also specify which WBS element and resources the risk will affect and the OBS element responsible for controlling the risk.

Add a risk Choose Project, Risks. Click the Display Options bar, then click Risk Details (the checkmark next to the command should be marked). Click Add, then click the General tab. Type the risk's name, then select the WBS element and the resource that the risk will affect. If you do not specify a resource, P3e considers all resources in the selected WBS.

Select the manager responsible for controlling the risk. Responsible managers are defined in the organizational breakdown structure (OBS). Select the type of risk you are creating, and specify the priority level to assign to the risk.



To specify a risk identification date other than the current date, click the Browse button and select a new date.

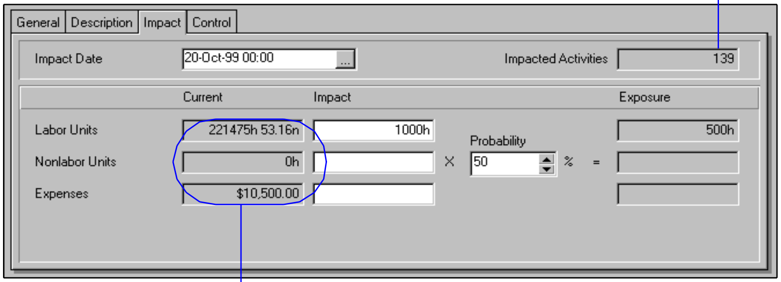
Add a risk description and control plan Click the Description tab, then type a description of the risk. To enter a description of the risk's control plan, click the Control tab, then type the description in the Risk Control Plan field. You can use HTML editing features in both tabs; these features include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

Calculating Exposure Values

P3e uses a risk's probability of occurrence, date of potential impact, and resource unit and expense estimates to calculate a risk's net exposure values. These exposure values are then used to determine the risk's impact on the project's cost, float, and finish date. The current project data are not changed.

Calculate a risk's exposure values Choose Project, Risks. Click the Display Options bar, then click Risk Details (the checkmark next to the command should be marked). Select the risk whose exposure values you want to calculate, then click the Impact tab. In the Impact area, specify the "as-of" impact date. P3e considers only those activities for the selected WBS/resource that are scheduled to start on or after the impact date. Type the estimated number of labor and nonlabor time units, and the estimated total cost of expenses the risk will incur, if the risk occurs. Type or select a percent estimate of the probability that the risk will occur. P3e calculates and displays the risk's exposure values as Exposure = Impact x Probability.

This number is calculated using the WBS, resource, and date.



The Current fields contain the remaining number of labor and nonlabor time units, and the current remaining expenses, for the WBS and resource assigned to the currently selected risk.

Calculating a Risk's Impact

P3e uses the top-down estimation method to apply a risk's exposure values and calculate impact on a project's schedule, cost, and duration. P3e applies these values to activities that finish on or after the risk's impact date. This does not include completed, locked, or milestone activities.

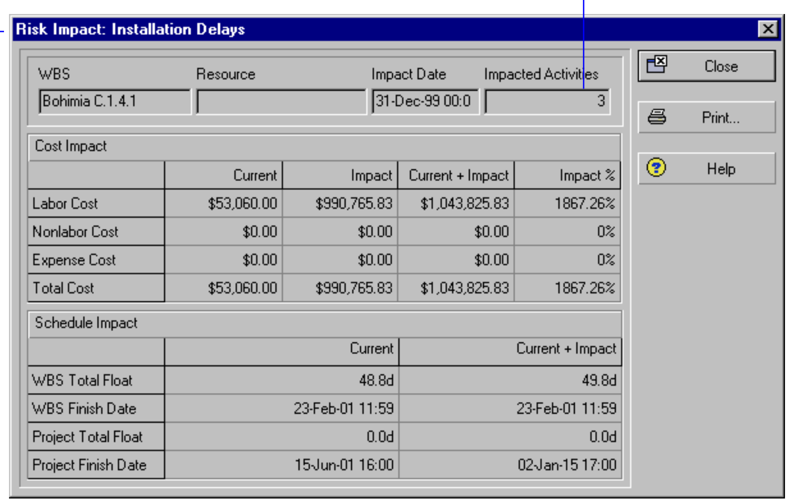
When applying exposure values, P3e uses any WBS elements and activities the WBS contains, along with resource assignments and information, such as price and availability. P3e then schedules the project according to your current scheduling preferences.

To calculate a risk's impact, P3e requires that you first determine a risk's exposure values on the Impact tab.

Calculate a risk's impact Schedule the project whose risk impact you want to calculate, then choose Project, Risks. Select the risk whose impact you want to calculate. Click Calc Impact in the command bar. P3e applies any resource units, then schedules the project using the current scheduling options.

The number of activities the risk will affect. This is not the total number of activities contained in the WBS element.

Use this dialog box to view the selected risk's effect on the project's schedule cost and duration.

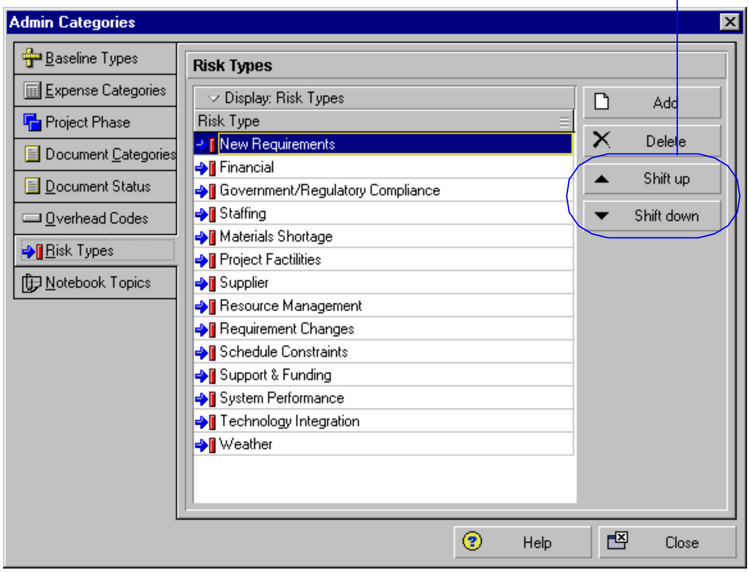


Creating and Deleting Risk Types

P3e enables you to create risk types, or categories of possible risks, that you can assign to risks in any project. You can use risk types to classify and standardize risks for all projects.

Add a new risk type Choose Admin, Admin Categories. Click the Risk Types tab, then click Add. Type the name of the new risk type.

To move a risk type up or down in the list, select it, then click Shift Up or Shift Down.

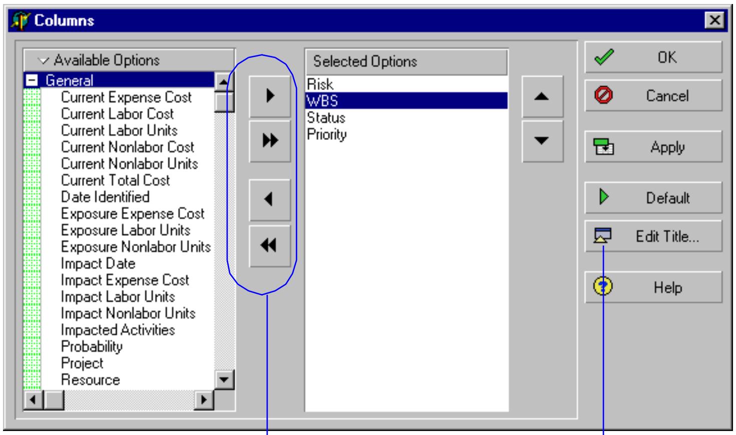


Delete a risk type Choose Admin, Admin Categories. Click the Risk Types tab, then select a risk. Click Delete. Click Yes to delete it.

Customizing Risk Layouts

Use the Columns dialog box to specify which columns you want to display in the current risk spreadsheet layout.

Customize risk layout columns In the Project Risks window, click the Display Options bar and choose Columns, Customize.



Double-arrow buttons add/remove all available columns in the current layout; single-arrow buttons add/remove selected items in the current layout.

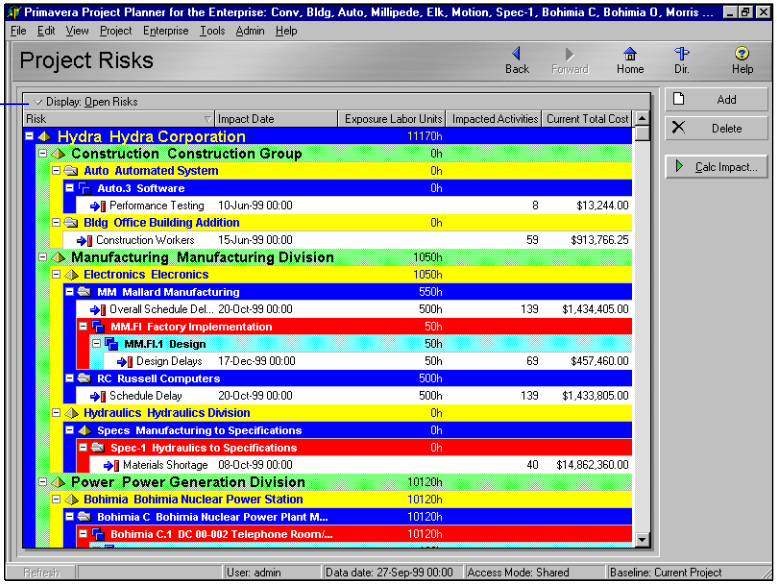
Click to change the column title of a selected item.

Modify the columns shown in the risk layout by clicking the right/left arrow buttons to move data items between the Available Options and Selected Options columns.

Items listed in the Selected Options column will appear in the current layout when you click OK. Click Apply to see your changes without closing the dialog box.

Filter, group, and sort risk layouts You can select the risks you want to view and specify how you want to display them, and you can restrict which risks you view. In the Project Risks window, click the Display Options bar. Choose Filter By or Group and Sort By and the option that best describes how you want to view risks.

This risk layout is grouped by WBS element and filtered by open risks for quick analysis.



Maintaining a Project's Document Library

In this chapter:

Use P3e's Reference Documents feature to catalog and track all project-related documents. These materials include guidelines, procedures, standards, plans, design templates, worksheets, and all types of project deliverables.

This chapter describes how to maintain your project's library of documents.

Viewing a Document Library and Adding/Deleting Documents

A document can provide standards and guidelines for performing an activity's work, or it can be formally identified as a project standard. A document can also be the product that results from an activity, such as testing plans and blueprints. You can also identify project deliverables, or documents that will be delivered to the end user or customer at the end of the project.

Use P3e's Reference Documents feature to maintain general information about project documents, such as revision date, location, and author. Store the document files on a network file server, configuration management system, or Web site, depending on your project requirements.

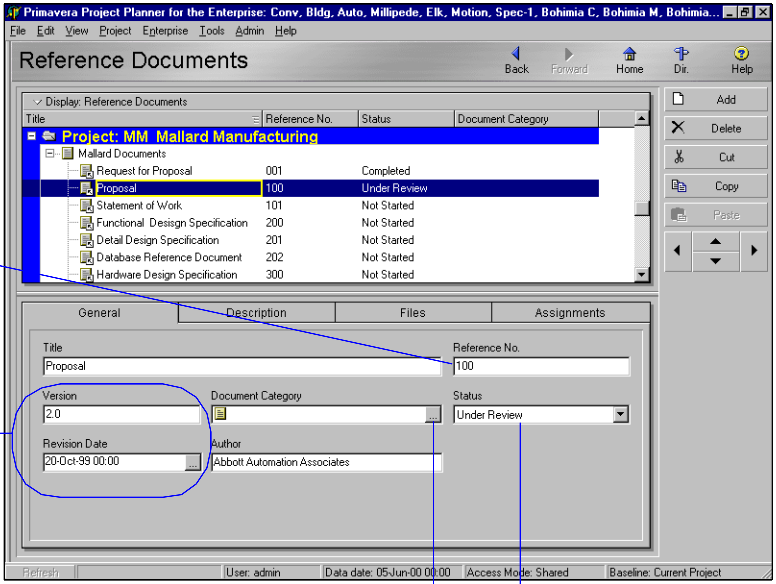
You can assign reference documents from WBS Details (and assign them to specific WBS elements to track work) or from Reference Document Details. You can also indicate whether the documents are public or private.

View a project's document library Choose Project, Reference Documents. Click the Display Options bar and choose Ref Doc Details. (The checkbox next to the command should be marked.)

Add a reference document Open the project to which you want to add a reference document. Choose Project, Reference Documents. Click the Title column label to display the reference documents hierarchy. (An outline icon in the Title column label indicates a hierarchy display.) Select the document immediately above and at the same level as the document you want to add, then click Add. Click the General tab in Reference Document Details. Type a name for the reference document, then add general information about the document.

Enter the selected document's reference or catalog number.

Track the document's version by entering the corresponding number and last update date.



Set up document categories by choosing Admin, Admin Categories; use categories to organize different types of documents.

Set up a document status by choosing Admin, Admin Categories.

Enter a document description Click the Description tab and type a description for the document. You can use the HTML editing features, which include formatting text, inserting pictures, copying and pasting information from other document files (while retaining formatting), and adding hyperlinks.

Delete reference document records Choose Project, Reference Documents. Select the document or group of documents you want to delete, then click Delete. Click Yes when prompted.

Deleting a document in P3e deletes only the document's link, not the document's actual, physical file.

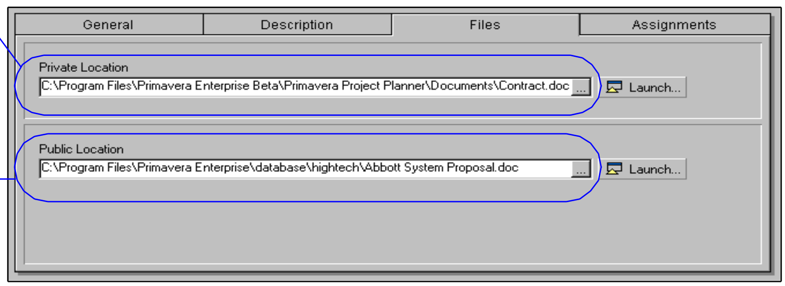
Specifying Document Location References

P3e supports two kinds of document location references, private location and public location. Private location references can be viewed only by P3e users. Public location references can be viewed by all project participants, including Progress Reporter users. For this reason, public location references typically refer to files stored in a widely accessible network location, an intranet, or the Internet.

Enter document location references In the Reference Documents window, select the document record for which you want to enter a location reference. Click the Display Options bar and choose Ref Doc Details. (The checkbox next to the command should be marked.) Click the Files tab.

*If you want to define the document as **private**, type the file location in this field, or click the Browse button to select the location.*

*If you want to define the document as **public**, type the file location in this field, or click the Browse button to select the location.*



Open a reference document Choose Project, Reference Documents. Select the document you want to open. Click the Files tab. To view a document's private file, click Launch next to the Private Location field. Only P3e users can view this file. To view a document's public file, click Launch next to the Public Location field. All project participants can view this file.

Assigning Reference Documents

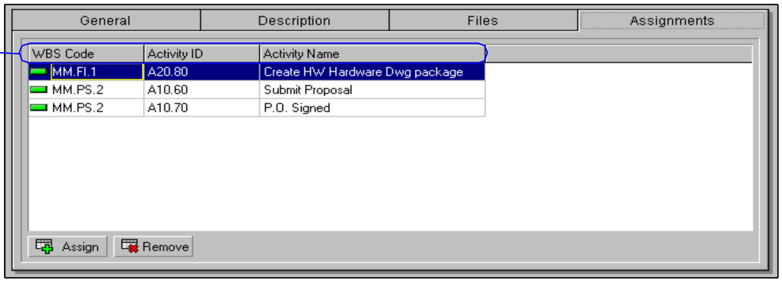
Use P3e to assign reference documents to both activities and WBS elements. For example, during a project's early planning stages, you may assign a document to a WBS element. Later, you can assign the same document to one or more activities as your project's activity details develop.

For instructions on assigning reference documents from the Activities and Work Breakdown Structure windows, see the *Working With Activities* and *Reviewing Work Breakdown Structures* chapters.

Assign reference documents from the Reference Documents window Select the document you want to assign. To assign multiple reference documents, hold down the Ctrl key, then click each document. Click the Display Options bar and choose Ref Doc Details. (The checkbox next to the command should be marked.) Click the Assignments tab.

Click Assign. From the pop-up dialog box, select the activity or WBS element to which you want to assign the selected document. Click the Assign button. To remove a reference document assignment from an activity or WBS element, select the item in the Assignments tab, then click Remove.

To change the sort order of any column, click the column labels.



Tracking Your Projects

In this chapter:

P3e's Tracking feature enables you to access, display, and manipulate summarized or live project data in a variety of formats to perform schedule, cost, and resource analyses.

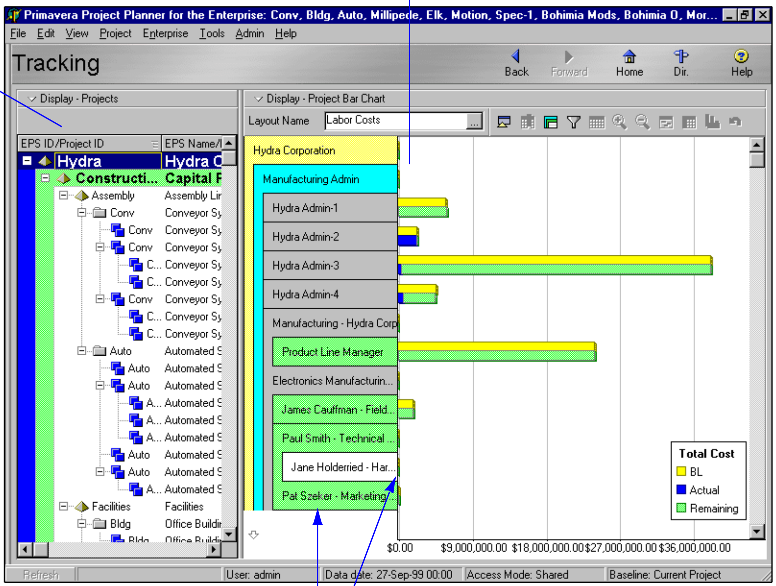
This chapter describes how to create and maintain tracking layouts. You will also learn how to customize the format and level of information that each tracking layout displays.

Creating Tracking Layouts

The Tracking window is divided into two or more panes, depending on the type of layout displayed. The upper left pane, or Project Explorer window, shows the enterprise project structure (EPS) and contains information about the available projects, and the upper right pane, or Top Layout window, always displays the current layout and layout options. Depending on the type of layout you open, the left and right panes may be split horizontally to display additional panes on the lower half of the window. These include the Resource Explorer window on the lower left and the Bottom Layout window on the lower right.

Top Layout window

Project Explorer window

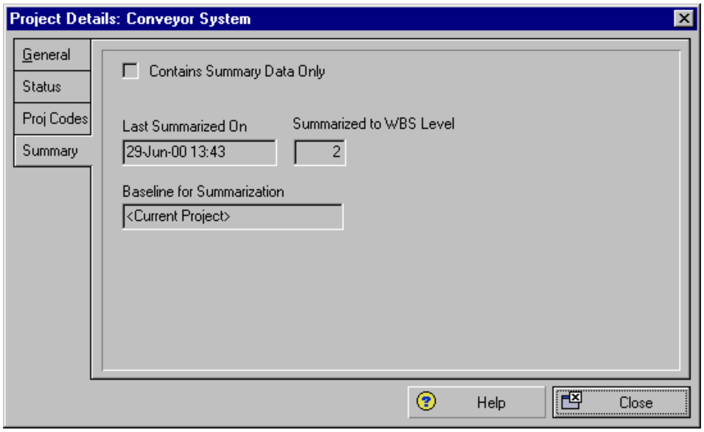


Hide these columns by choosing View, Hide Left Columns, or by dragging the split bar.

For more information about user preferences, see the *Setting Up User Preferences* chapter. For more information about summarizing data, see the *Summarizing Projects* chapter.

Tracking layouts display summarized data when you select closed projects in the Project Explorer window and when you choose to open only global data when you first start P3e. (Summarized data are available when projects have been summarized in P3e.) If you select open projects in the Project Explorer window, tracking layouts display live data. You can change this setting to display summarized data by choosing one of the closed projects options in the Resource Analysis tab of the User Preferences dialog box (Edit, User Preferences).

View project details Right-click a project in the Project Explorer window and choose Project Details to review additional information about the project. For example, the Summary tab displays the data the summarizer was last run for the selected project. This will give you an idea of how current your summary data is. The summary tab also displays information about the WBS level to which the project was summarized. For example, a project may use four WBS levels, but may have been summarized to WBS level 2. As a result, Tracking window data shows rolled up values to the second WBS level for that project , when viewed in Summary mode. You can also review general information, such as the project's status and responsible manager, project codes, and project dates.



Tracking layout types You can create four types of tracking layouts:

- **Project tables** display project data in a table format. (Top Layout window only)
- **Project Bar charts** display project data in a horizontal bar chart format. (Top Layout window only)

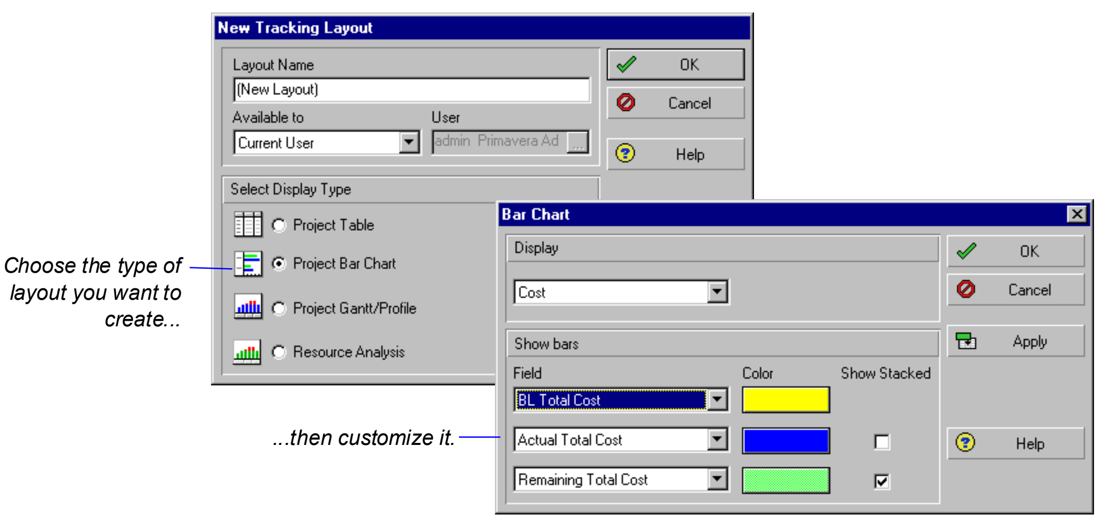
- **Project Gantt/profiles** display project information in columns and Gantt chart format (in the Top Layout window) and time-distributed project data in either spreadsheet or profile format (in the Bottom Layout window).
- **Resource analysis** layouts display resource/project usage information in columns and Gantt chart format (in the Top Layout window) and time-distributed total resource allocation data in either spreadsheet or profile format (in the Bottom Layout window).

Each of these layout display types enable you to survey projects first at a comprehensive level, then at more detailed levels according to EPS, project, work breakdown structure (WBS), organizational breakdown structure (OBS), phase, or specific WBS data elements. You can also use features such as filtering and grouping to customize the format and level of information you want to include in a tracking layout.

Tracking layouts can be accessible to all users (global) or to a specific user only. You can assign tracking layouts to thresholds and issues to help monitor a project's problem areas.

For step-by-step instructions on creating each type of tracking layout, see *Tracking Projects* in the P3e online help.

Create a tracking layout Choose Enterprise, Tracking. In the Project Explorer window, choose the project or EPS node for which you want to create a layout. Click the Display Options bar in the Top Layout window (on the right side), then choose Layout, New. In the New Tracking Layout dialog box, type the new layout's name. In the Available To field, choose to make the layout available to you, the current user, or to everyone, All Users.



Working with Tracking Layouts

Open a tracking layout by choosing Enterprise, Tracking. In the Project Explorer window, choose the project or EPS node for which you want to open a layout. Click the Browse button in the Layout Name field in the Top Layout window. Select the layout you want to open and click OK. You can also click the Display Options bar in the Top Layout window, then choose Layout, Open.

When you create and save a layout, only the presentation options are saved, not the data. This enables you to use the layout with different projects.

Save a layout In the Top Layout window, click the Display Options bar, then choose Layout, Save or Save As. If you choose Save As, type a new name for the layout and indicate whether the layout should be available to All Users, the Current User, or Another User. If you select Another User, click the Browse button in the User field, then select the user.

Share a layout You can share a layout with other users in several different ways:

- When you first create the layout, you can specify that it be available to All Users or the Current User.
- You can save an existing layout using a different name and then specify that it be available to All Users or Another User. If you specify Another User, you can then select a specific user.
- You can export the layout to a file and then e-mail the file or its location to other users.
- You can publish the layout to a Web site.

For information on publishing tracking layouts to a Web site, see the *Publishing a Project on the World Wide Web* chapter.

Delete a layout In the Top Layout window, click the Display Options bar, then choose Layout, Open. Select the layout you want to delete, then click Delete. Click Yes.

Export a layout In the Top Layout window, click the Display Options bar, then choose Layout, Open. Select the layout you want to export, then click Export. Specify the drive and folder to which you want to export the layout, type a name for the layout, then click Save. The layout is saved in .PLF format.

Import a layout In the Top Layout window, click the Display Options bar, then choose Layout, Open. Click Import. Locate the layout (*.PLF) you want to import and select it, then click Open.

Customizing Tracking Layouts

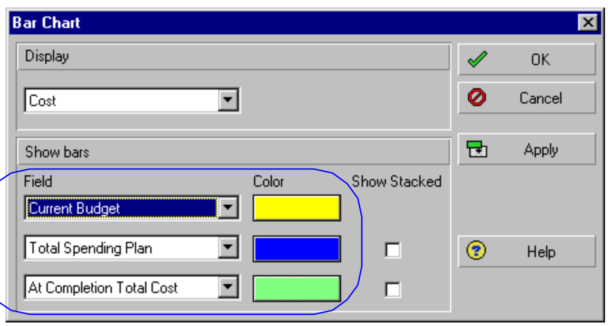
Depending on the type of tracking layout displayed, you can customize various aspects of the Tracking window. For example, you can display only the top or bottom window in a layout, and you can select the columns of information displayed in layouts that contain tables and spreadsheets.

For step-by-step instructions on customizing each type of tracking layout, see *Tracking Projects* in the P3e online help.

Customize a Project table You can customize the columns that display in a Project table. Click the Display Options bar in the Top Layout window and choose Top Layout Options, Columns. See the *Customizing and Printing Layouts* chapter for more information on customizing columns.

Customize a Project Bar chart You can customize the bar options that appear in a Project Bar chart. Click the Display Options bar in the Top Layout window and choose Top Layout Options, Edit Bars.

Show up to three bars. Choose the data you want the bar to represent and its color.



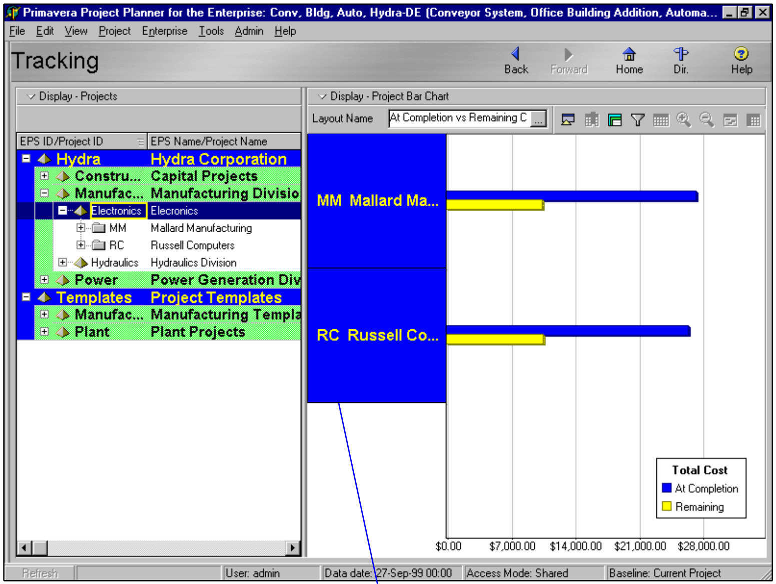
To change the timeperiod for the layout, move the mouse over a year bar until the mouse pointer changes to a hand. Drag to the right to move backward in time and to the right to move forward in time.

Customize a Project Gantt/profile You can customize the columns that appear in the Project Gantt chart (Top Layout window), and the data/timescale that appears in the profile (Bottom Layout window). To customize columns, click the Display Options bar in the Top Layout window and choose Top Layout Options, Columns. To customize profile options, click the Display Options bar in the Bottom Layout window and choose Bottom Layout Options, Profile Settings or Timescale Settings. See the *Customizing and Printing Layouts* chapter for more information.

Customize a Resource analysis layout You can customize the columns and bars that appear in the Top Layout window, and the data/timescale that appears in the profile (Bottom Layout window). To customize the Top Layout window, click the Display Options bar in the Top Layout window . Choose Top Layout Options, then the item you want to customize. To customize profile options, click the Display Options bar in the Bottom Layout window and choose Bottom Layout Options, Profile Settings or Timescale Settings. See the *Customizing and Printing Layouts* chapter for more information.

Grouping, Sorting, and Filtering Data in Tracking Layouts

Grouping data allows you to organize information into bands, based on a common attribute such as a hierarchy, code value, or resource. You can choose to group data using P3e's standard data groupings, or you can create a customized grouping. Sorting enables you to determine the sequence of data in the layout.

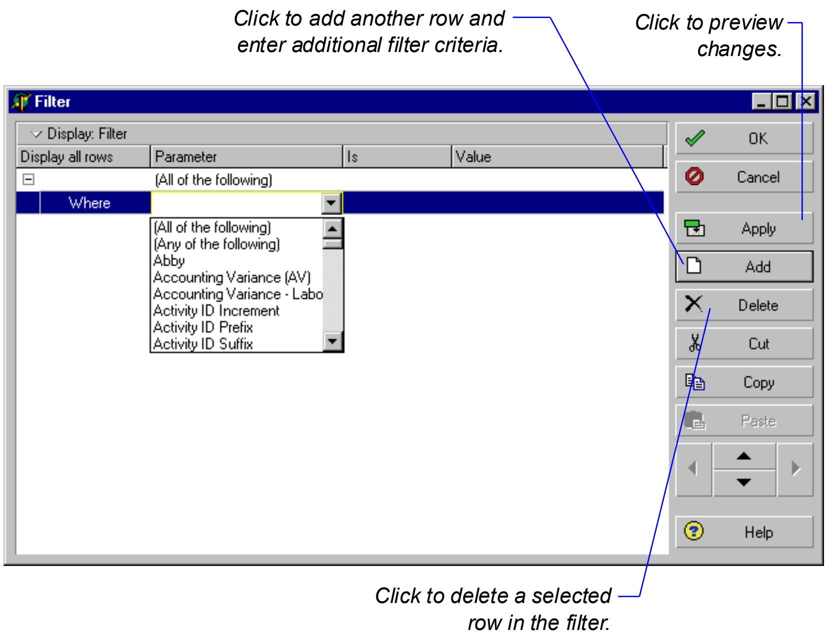


This Project Bar chart is grouped by EPS/Project. You can group and sort by other default groupings, or customize your own.

For more information on customized grouping, sorting, and filtering data, see the *Customizing and Printing Layouts* chapter.

Group and sort data in tracking layouts In the Top Layout window, click the Display Options bar, then choose Top Layout Options, Group and Sort By. Select the data grouping you want to apply to your layout, or customize the grouping. If you choose Customize, double-click the Group By field and select the field by which you want to group data. Click Sort to select a sort order for the grouping, then click Apply to preview your selections or OK to save them.

Filter data in tracking layouts In P3e, you can use filters to display only the data you'd like to see. A filter contains a formula that restricts your view to only the data you require. Click the Display Options bar in the Project Explorer window and choose Filters. Click Add. In the new row, click the Parameter field and select a value. Double-click the Is cell and select a filter criteria. Type a value and click OK.



The filter term "Any of the following" is the same as OR. "All of the following" is the same as AND.

Checking Projects In and Out of P3e

In this chapter:

P3e’s Project Check-In/Check-Out feature enables you to keep track of projects that are used outside of the enterprise database. For example, a project manager may check out a project and take it along to a project site, updating or modifying the project while at that site. When the project manager returns to the office, the project is checked back in, updating the enterprise database.

This chapter describes the file formats in which you can check projects in and out of P3e; it also explains how to check in and check out projects using these formats.

Managing Remote Projects

Check projects out of P3e to work on them at remote locations. When a project is checked out, it cannot be modified in P3e until it is checked back in.

You can check projects out in the following file formats:

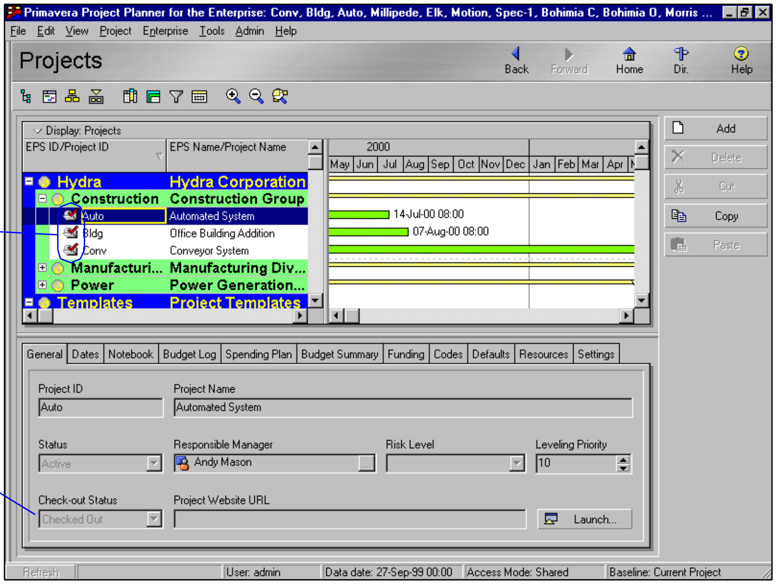
- Primavera proprietary format (XER) enables you to use activity, cost, resource, and other types of project information with other P3e installations, regardless of the database being used (Interbase, Oracle, or Microsoft SQL Server).
- Microsoft Project Exchange (MPX) format enables you to use activity, cost, resource, and other types of project information with project management tools that support MPX format, such as Microsoft Project. MPX uses ASCII file format and is compatible only with MPX versions 4.0 and 4.1.
- P3 3.0 format enables you to use activity, cost, resource, and other types of project information with Primavera Project Planner (P3) version 3.0. If you will be using P3e, however, Primavera recommends that you convert your P3 3.0 projects to P3e format as P3e contains many features and fields that cannot be converted to P3 3.0 format.

For more information about converting projects, see the *Primavera Enterprise Administrator's Guide.*

Track check-in/check-out status You can easily determine whether a project has been checked out of P3e. Choose Enterprise, Projects, click the Display Options bar, then choose Show on Bottom, Project Details.

The checkmark on the project icon indicates that these projects are checked out.

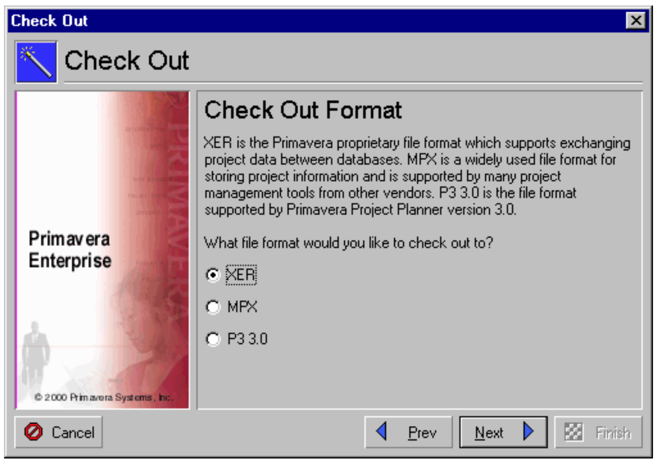
Click the General tab, then check the status of the project.



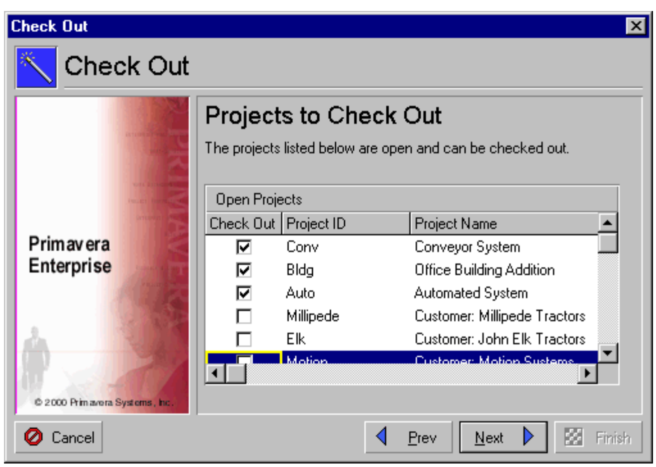
Checking Out Projects

The Check-Out Wizard guides you through the steps for checking out project(s). Before you start the wizard, open the projects in P3e that you want to check out.

Check out projects Choose File, Check Out. Choose XER, P3 3.0, or MPX, then click Next.

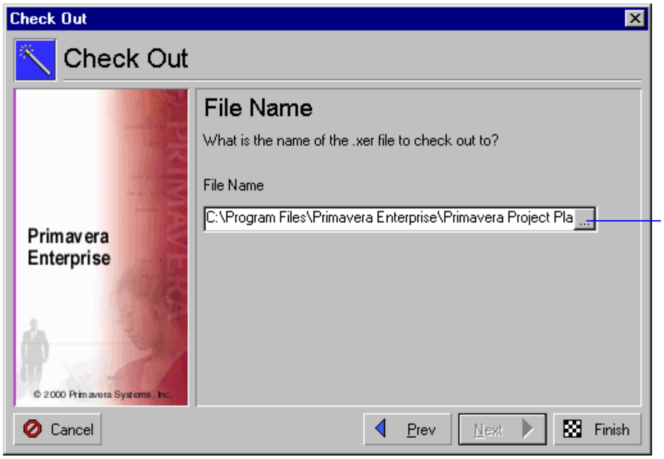


Clear the Export checkbox next to each project that should not be checked out, then click Next.



If the project you want to check out is not on the list, click Cancel, open the project, and restart the wizard.

Specify the name of the file and the location where the file will be saved.



Click the Browse button to select the file location.

- If you are checking out in P3 3.0 format, give the project a four-character name, then click Next. Choose the default planning unit, click Next, then indicate how P3 3.0 calculates costs in the project.
- If you are checking out in .MPX format, choose how P3e treats WBS information.

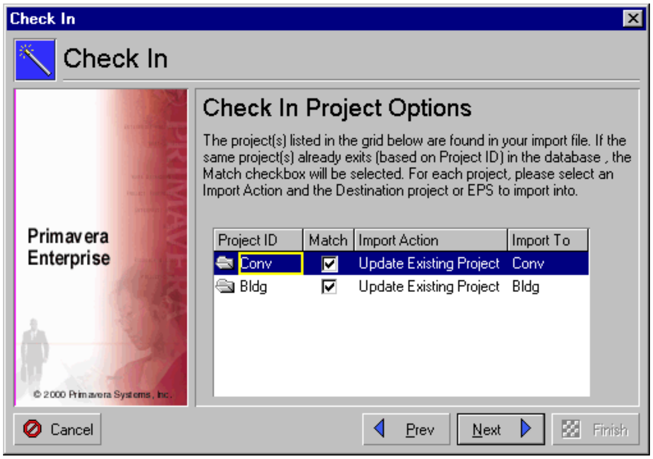
Click Finish.

If you check out multiple projects to a single .XER file, the inter-project relationships between activities in all the projects included in the file are preserved.

Checking In Projects

Projects previously checked out of a P3e database can be checked back in to any P3e installation. You must check projects back in using the same format used to check them out.

Check in a project in XER format Choose File, Check In. Choose XER as the project check-in format, then click Next. Click the Browse button to select the file that you want to check in, then click Next.



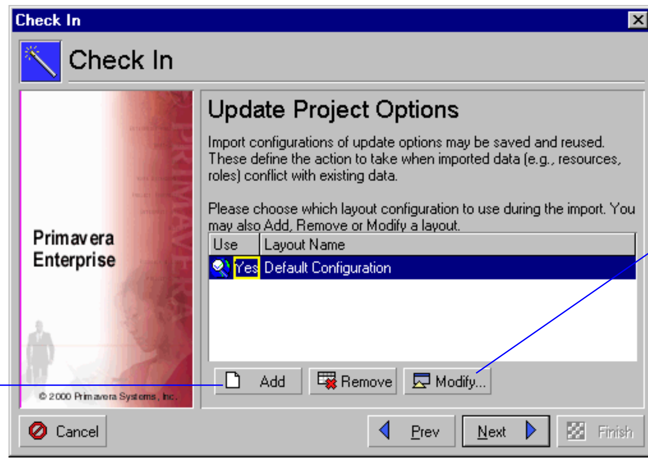
The relationships between all of the projects in the XER file are preserved.

Specify check-in project options An XER file can contain data from several projects. The first column in the Check-In Project Options dialog box lists all the projects included in the XER file. If a project with the same name already exists in the current installation of P3e, the Match checkbox next to it is marked. To prevent data in the P3e database from being overwritten when you check in the XER file, double-click the Import Action field next to each project, then select one of the following options:

- **Update Existing Project** - The existing project is updated with any new/modified data in the XER file. Select the project to update in the Import To field. You can further define how data should be updated when matches occur. Refer to *Choose Update Project Options* later in this section for more information.
- **Replace Existing Project** - The existing project is deleted and then replaced with the project checked in from the XER file. Select the project to be replaced in the Import To field.
- **Ignore this Project** - The project is not checked in to P3e.

Choose update project options Click Next to select a layout configuration to use when importing project data. The options specified in the layout configuration determine how P3e handles data in the import file that match data in the database. You can create and save several different configurations; however, only one configuration can be used to check in the file. Select Yes in the Use field next to the configuration you want to use.

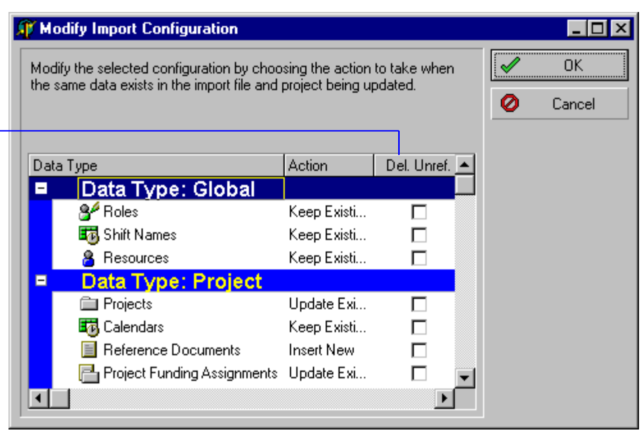
Click to create a new layout configuration.



Click to customize the layout configuration.

Modify a layout configuration The options specified in a layout configuration determine how data are updated when projects are checked in. To modify these options, select the layout configuration in the Update Project Options dialog box, then click Modify.

To delete data that are in the project being updated but that are not included in the import file, mark the checkbox. To keep the data, clear the checkbox.



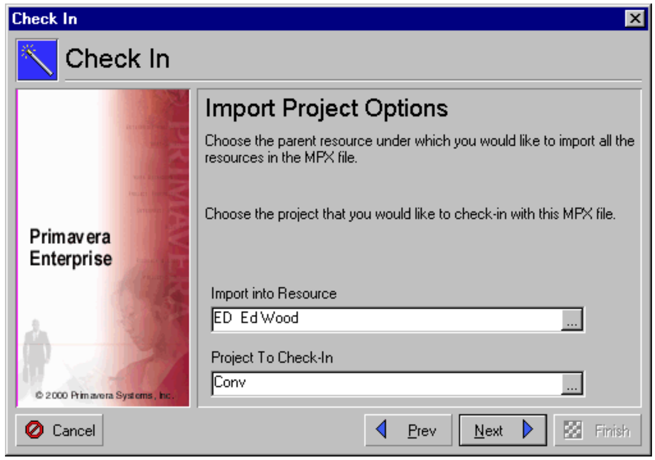
The Modify Import Configuration dialog box lists the data types for which you can set options. Mark the Del. Unref. checkbox next to a data type to remove data that exist in the project you are updating but that are not included in the file you are checking in. For example, if several thresholds are defined in the project that you are updating, but they are not included in the file you are checking in, mark the checkbox in the Del. Unref. column to remove the thresholds from the project being updated.

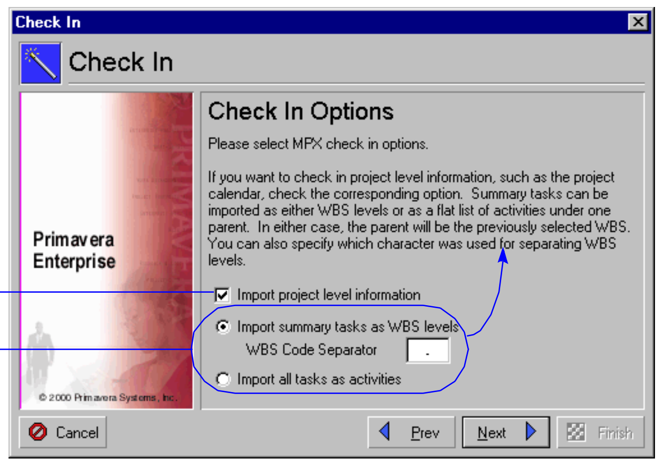
Select one of the following in the Action field to indicate how the data type is updated:

- **Keep Existing** - Retains data in the existing project and does not overwrite them with the updated data.
- **Update Existing** - Overwrites data in the existing project with data from the XER file.
- **Insert New** - Retains data in the existing project and adds a new data item to the project. For example, if a new calendar was added in the XER file, but you don't want to change the existing calendars, choose Insert New to add the new calendar to the existing project.
- **Do Not Import** - Retains data in the existing project and does not import the data type.

Click OK to save changes to the modified layout configuration. Click Next, then click Finish.

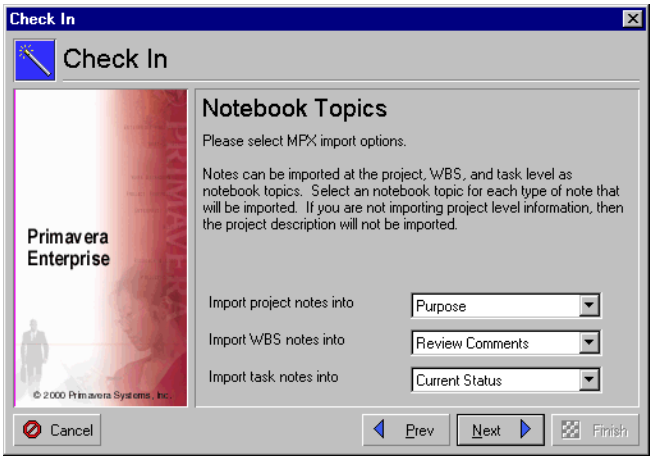
Check in a project in MPX format Choose File, Check In, choose MPX, then click Next. Click the Browse button to select the file you want to check in, then click Next. Specify the top-level resource under which the resources in the file you are checking in should be placed in the resource hierarchy, then click the Browse button in the Project to Check-In field to select the project to be checked in. Click Next.





Mark to check in project-level data, then choose how P3e should treat WBS information.

Click Next to display the Notebook Topics dialog box.



Assign notebook topics to each type of note checked into the project, then click Next. Refer to the preceding sections for information about specifying update project options. Click Finish.

Check in a P3 3.0 project Choose File, Check In, choose P3 3.0 then click Next. Type your P3 3.0 username and password. Select the location and project name of the project you want to check in, then click Next. Specify the enterprise project structure (EPS) location where you want to place the checked in project and the name of the project you are checking in. Select whether to update the existing project with imported project data or replace the existing project with the checked-in project, then click Next. Refer to the preceding sections for information about specifying update project options.

Click Next. Specify how P3e calculates costs, then click Finish.

If the P3 3.0 program is checked out, you cannot check in only the project. The entire program must be checked in at once.

Part 5

Customizing Projects

In this part:

- Working with Layouts
- Grouping, Sorting, and Filtering Data
- Customizing and Printing Layouts
- Customizing and Printing Reports
- Publishing a Project on the World Wide Web

Read this part to learn how to customize your P3e desktop and create layouts that help you see the data you need to manage your projects.

Working with Layouts describes the types of layouts you can create and explains how to add, open, and save layouts. It also describes how to import and export layouts to share with other users. Read *Grouping, Sorting, and Filtering Data* to learn how to group, sort, and filter the data displayed in layouts to focus immediately on the data you need to see. *Customizing and Printing Layouts* shows you how to change the look and content of layouts by modifying columns, formatting Gantt charts, adjusting the timescale, and editing fonts and colors.

The last two chapters in this part address reporting. *Customizing and Printing Reports* discusses how to create and print P3e reports and assign them to report groups and batches, and *Publishing a Project on the World Wide Web* explains how to save layouts in HTML format.

Working with Layouts

In this chapter:

Use P3e to create layouts that display the data you need to see, in the format you need to see them. You can customize the top and bottom areas of the layout to include tables, graphs, charts, Activity Details, and more. Once you are satisfied with your layout, you can save it so you or other team members can use it again.

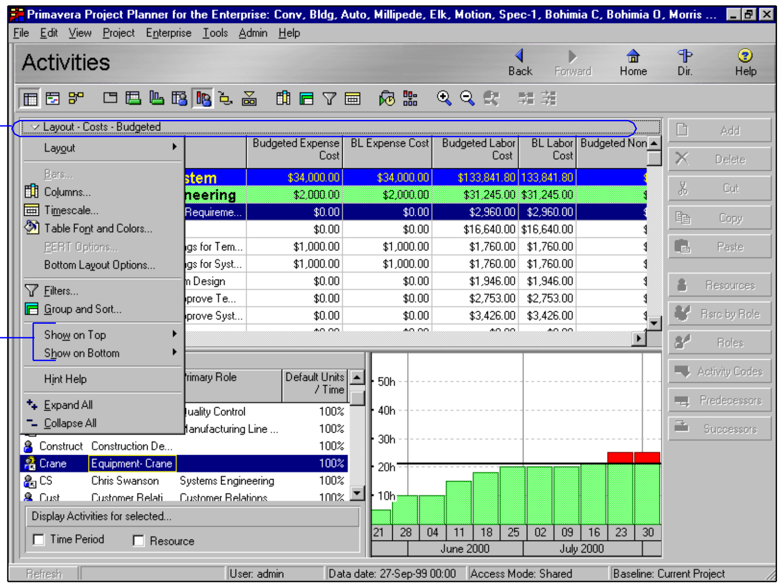
This chapter describes the different layout types and explains how to create, open, save, export, and import layouts.

Layout Types

You can open the following types of activity layouts in P3e: Activity Tables, Activity and Resource Usage Spreadsheets and Profiles, Gantt charts, PERT, Activity Details, and Trace Logic. Split P3e’s Activities window into top and bottom panes to display different types of layouts at the same time. For example, show an Activity Table in the top pane and a Resource Usage Profile in the bottom pane.

Click the Layout Options bar to display a menu of options that you can use to customize the top and bottom panes of the Activities window.

Click Show on Top and Show on Bottom to select the layout type displayed in each area of the Activities window.



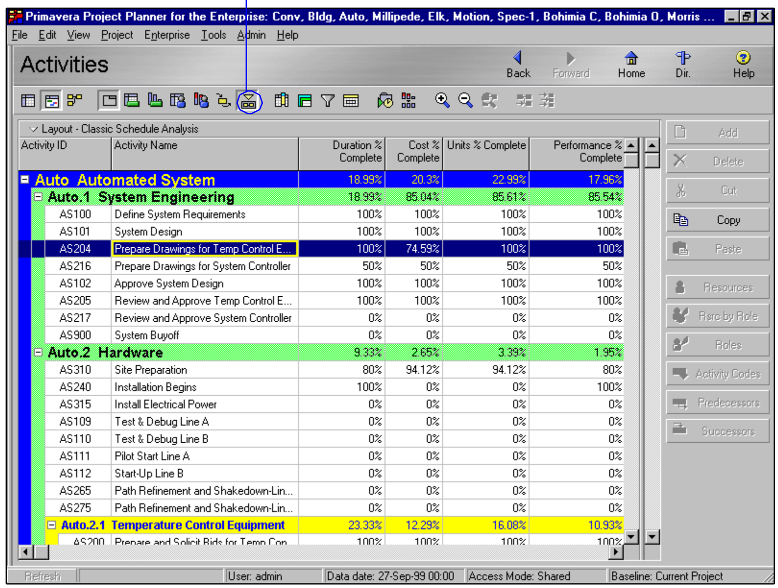
For additional information about layout types and examples of sample layouts, see the *P3e Quick Tour* chapter in *Part 1*.

Refer to the following examples:

*Click the **Hide Bottom Window** icon to display the top layout in an expanded view.*

Activity Table

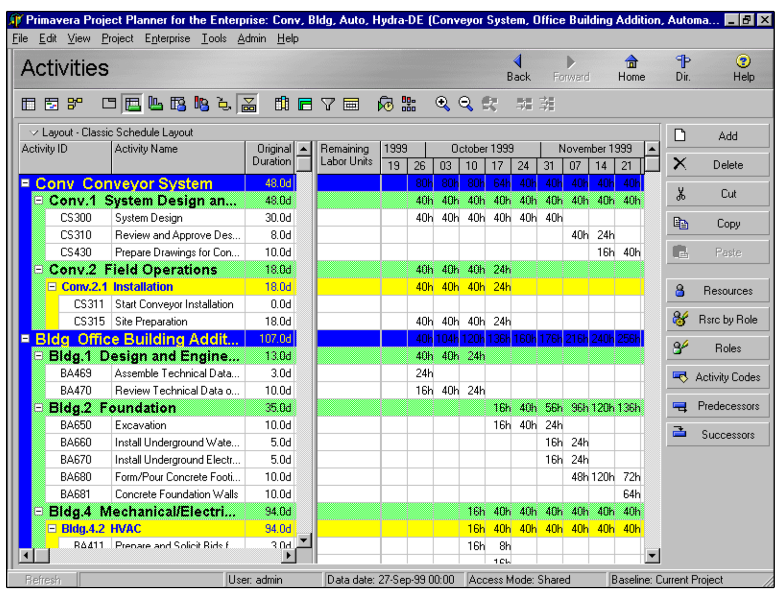
Displays activity information in spreadsheet format. Use this type of layout to quickly update a project.

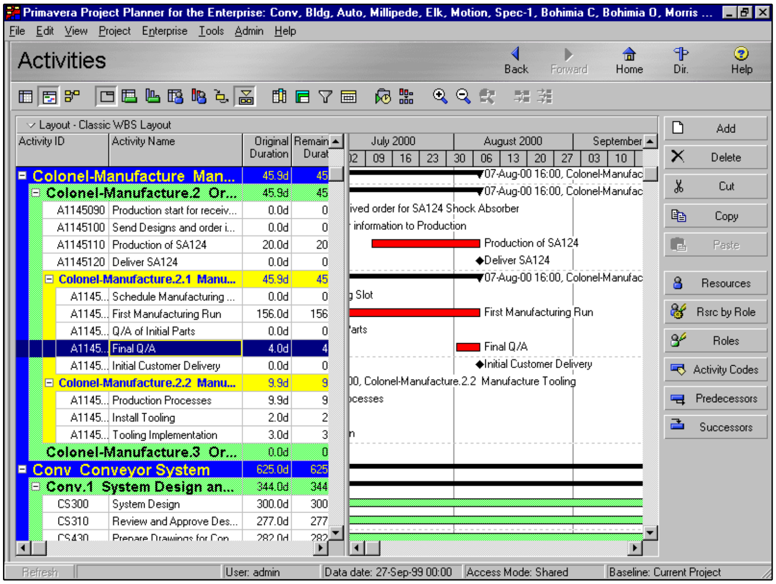


You can use filters and data grouping to see only those activities that occur in your current status cycle.

Activity Usage Spreadsheet

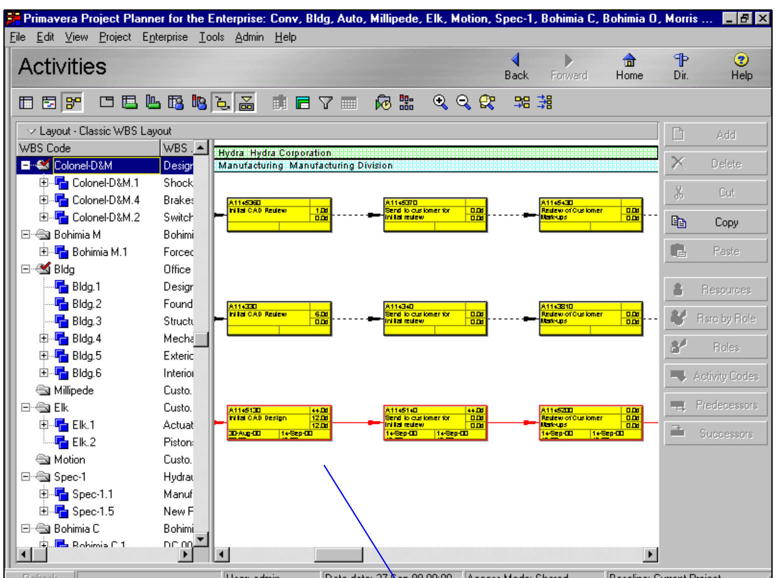
Displays units, costs, or earned value data by activity over time. Use this type of layout to review per period and rolled up activity resource/cost data.





Gantt Chart

Provides a graphical display of activity progress over the course of the project. Use this layout to review or analyze the schedule.



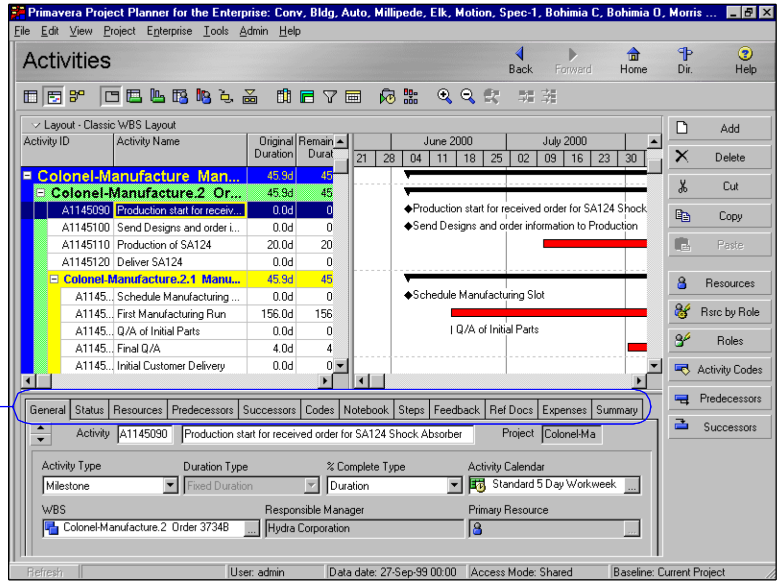
PERT

Provides a graphical display of activities, including logical relationships. PERT can be displayed in the top layout only. The left side of this example displays the WBS hierarchy, while the right side shows the activity flow in graphical format. Use this layout to change the sequence of activities as your project evolves.

To quickly zoom in on a PERT box, hold down the Alt key, then click and drag in the PERT section.

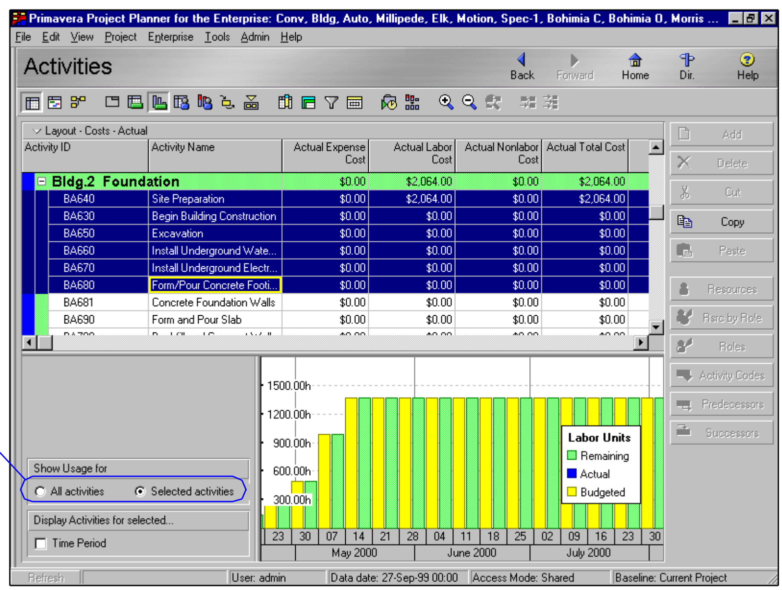
Activity Details
Display and enable you to modify detailed information for an activity you select in either the Activity Table or PERT. This type of layout can be displayed in the bottom layout only. Use this layout type to add and update activities.

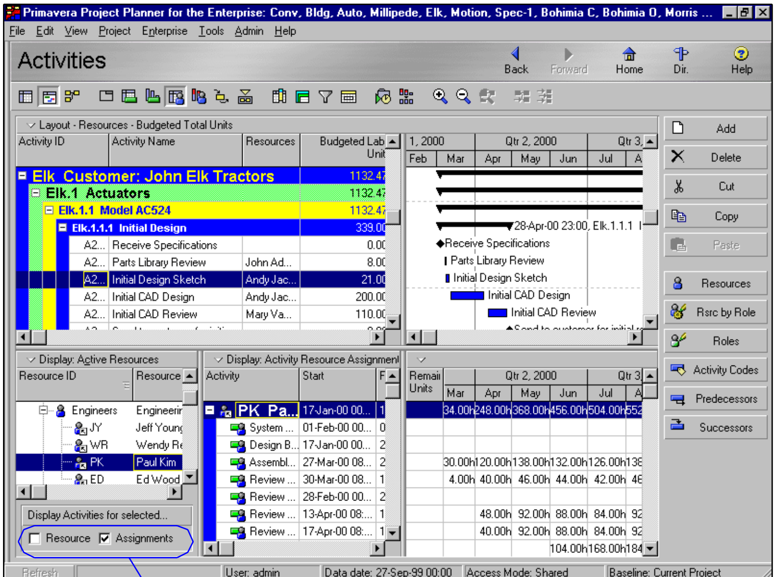
To show or hide any of the Detail tabs, right-click on a tab title and choose Customize Activity Details.



Activity Usage Profile
Displays a time distribution of activity units and costs in a Bar chart format. This profile can be displayed in the bottom layout only. Use this layout type to review the labor use for activities in a specific timeperiod.

You can display usage for all activities, or choose Selected Activities to display usage for only the highlighted activities.

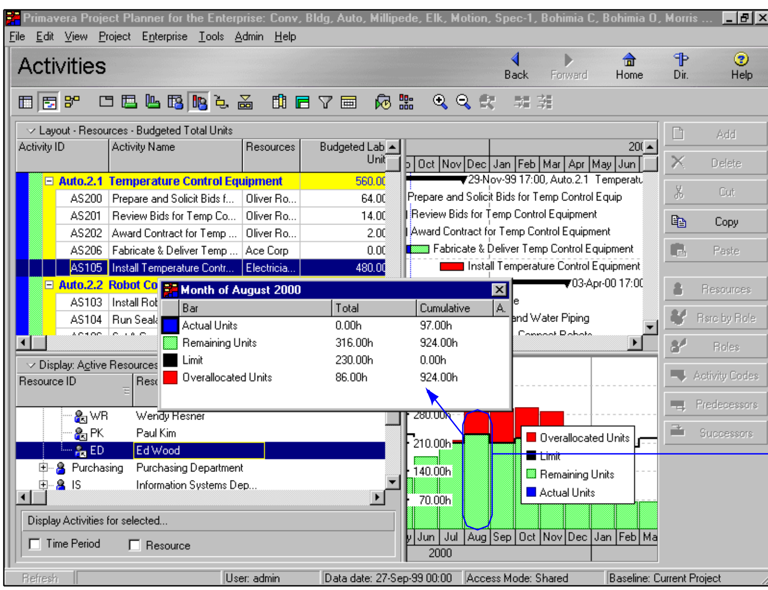




Resource Usage Spreadsheet

Displays resource data in spreadsheet format. This spreadsheet can be displayed in the bottom layout only. Use this layout type to view resource allocation over time, according to a timescale you specify.

You can display activities by selected resource or assignment.



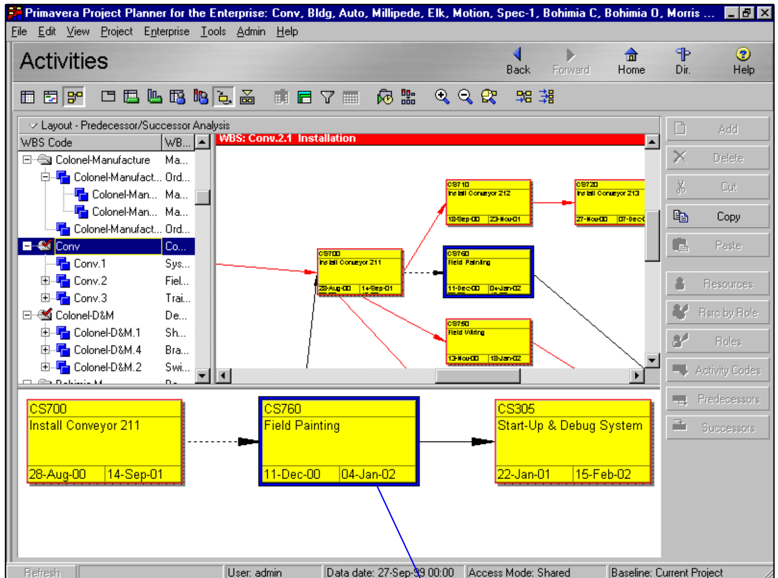
Resource Usage Profile

Displays a time distribution of resource units and costs in relation to activities in a Bar chart format. This profile can be displayed in the bottom layout only. Use this layout type to analyze resource levels with the schedule.

To drill down and see a pop-up box containing totals for a specific month, double-click that month's bar in the graph.

Trace Logic

Provides a graphical display of dependency relationships for an activity you select in either the Activity Table or PERT. Trace logic can be displayed in the bottom layout only. Use this layout type to easily move forward and backward through the plan to view the critical path.

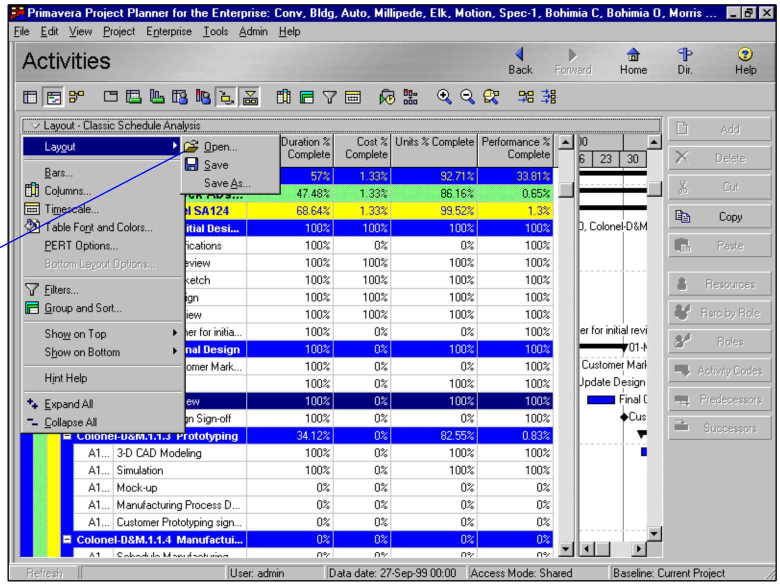


To quickly zoom in on a box, hold down the Alt key, then drag in the Trace Logic layout.

Creating, Opening, and Saving Layouts

Once you create a layout, you can save it and use it again at other stages of the project or with different projects. Make layouts available to all users (global) or to a specific user only.

Choose Layout, Open, to apply an existing layout to the current project or projects.



For detailed instructions on customizing the top and bottom layouts, see the *Customizing and Printing Layouts* chapter.

Add a new layout Customize the top and bottom layouts to create a new layout, then save the layout using a name you specify. Click the Layout Options bar, then choose Layout, Save As. Type the layout name, then select who will be able to use this layout: All Users, the Current User, or Another User. If you select Another User, click the Browse button in the User field, then select the user's name. (If you save a layout and specify a user other than yourself, you will no longer be able to access the layout.) Click Save.

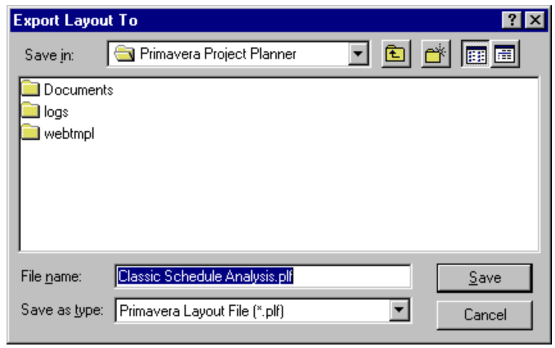
Open a layout Click the Layout Options bar, then choose Layout, Open. Select the layout you want to open, then click Open. To preview the layout without closing the Open Layout dialog box, click Apply.

Save changes to a layout Click the Layout Options bar, then choose Layout, Save. To save a copy of the layout using a different name, choose Layout, Save As. Type a name for the layout copy, then click Save.

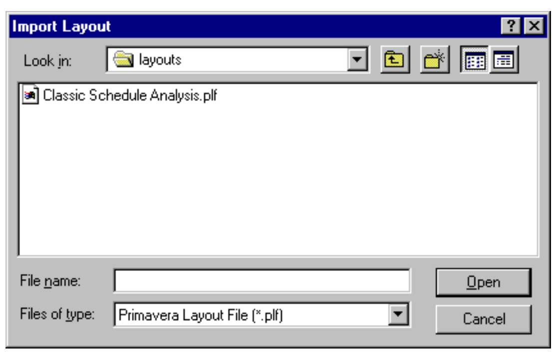
Exporting and Importing Layouts

If you want to share a layout with other users, export it to a central location that other users can access. They can then import the layout to use with their own projects.

Export a layout Click the Layout Options bar, then choose Layout, Open. Click the name of the layout you want to export, then click Export. Specify a name and location for the export file, then click Save.



Import a layout Click the Layout Options bar, then choose Layout, Open. Click Import, then select the location of the layout file you want to import. (Primavera layout files have a .PLF extension.) Click Open. If you want to make the layout available to all users, click Yes when prompted.



To overwrite the current layout with your changes, click the Layout Options bar and choose Layout, Save.

Grouping, Sorting, and Filtering Data

In this chapter:

P3e provides extensive grouping, sorting, and filtering capabilities so you can view a project from many different perspectives.

Grouping organizes activities or projects into categories that share a common attribute. For example, focus on activities by resource, responsibility, or dates. Sorting arranges activities, resources, or projects in any order you select, such as by start date.

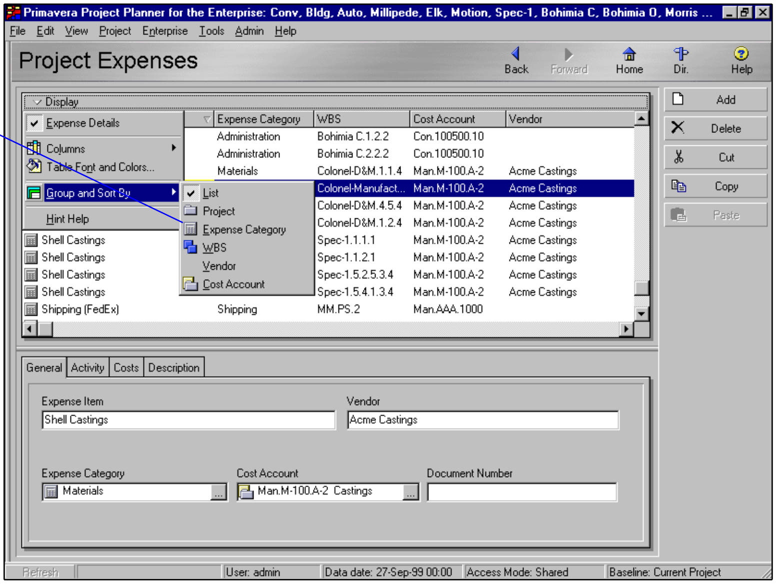
Use filters to narrow your selection to a specific data group. P3e provides several filters which you can use or modify; you can also add new filters.

Read this chapter to learn how to group, sort, and filter data in your projects.

Grouping Data

Group to organize information in categories that share a common attribute, such as enterprise project structure (EPS), work breakdown structure (WBS), code value, or resource. P3e provides a number of predefined data items you can use for grouping. For example, when displaying the Expenses window, you might group by vendor, WBS, or category.

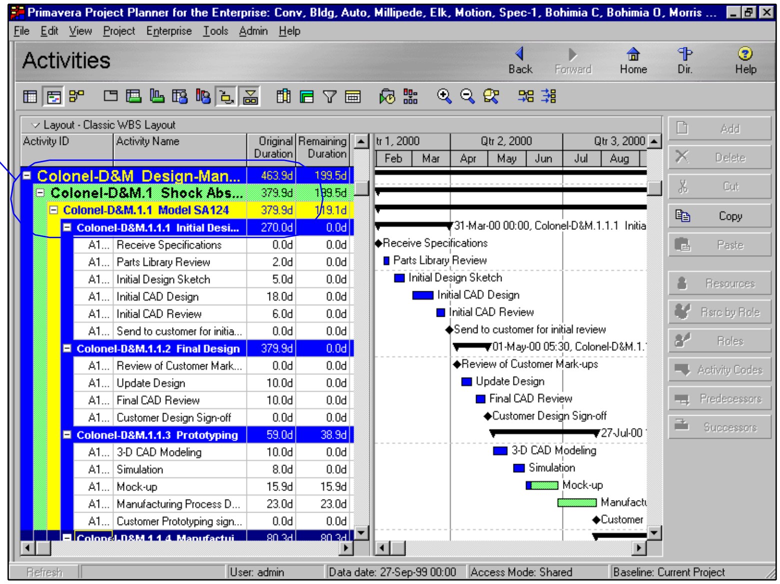
P3e provides default group and sort criteria for the WBS, expenses, reference documents, thresholds, and risks.



You can also customize group criteria when you are working with projects, activities, and resources. Group by simple, one-level lists of information, such as dates, durations, costs, and other numeric data. You can also group by multiple data items in the same layout. For example, group by project, then total float. Each group band can have a unique color and font.

Group criteria can also be arranged in hierarchies of data at multiple levels (up to 20). These items include projects, WBS, project codes, and activity codes. Choose whether to indent each level in the hierarchy, and specify up to which level to show. If you limit the number of levels, you can group by additional data items.

This layout is grouped by multiple levels of the WBS.

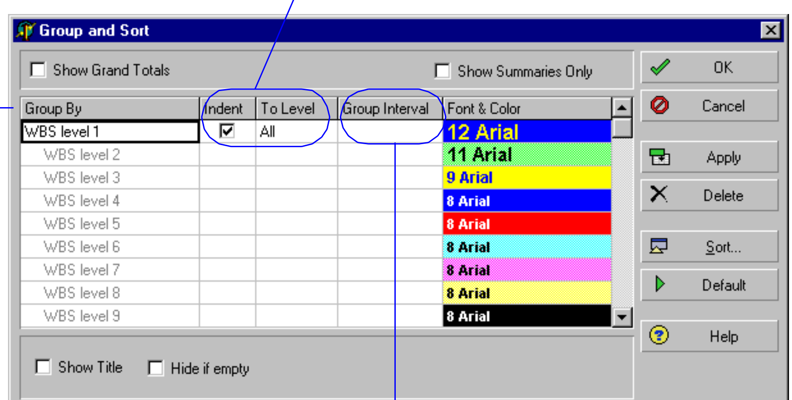


You can also specify customized grouping and sorting criteria when a Resource Usage Spreadsheet is shown as a bottom layout in the Activities window.

Customize grouping In the Activities window, click the Layout Options bar, then choose Group and Sort. You can also click the Display Options bar from the Projects or Resources window and then choose Group and Sort By, Customize.

When grouping by a hierarchical item, such as WBS, mark the Indent checkbox to indent each level, and specify how many levels to show.

To select the data item by which you want to group data, click the Group By field and select a value from the drop-down list.



When grouping by numbers, dates, or durations, choose an interval for each group. For example, group activities by actual costs in increments of $3000.

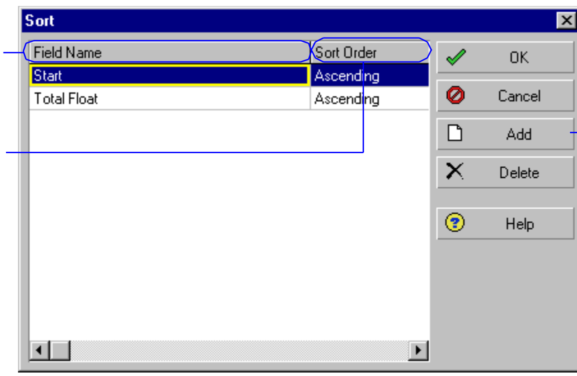
Sorting Data

Sorting determines the sequence in which P3e lists projects, activities, or resources, depending on the displayed window. You can sort alphabetically, numerically, or chronologically based on the data item you choose. For example, sort by total float to see critical activities first, or sort by percent complete in descending order to see completed or in progress activities at the top of the layout.

Specify sort order In the Activities window, click the Layout Options bar, then choose Group and Sort. Click Sort. You can also click the Display Options bar from the Projects or Resources window and choose Group and Sort By, Customize, Sort.

To select a data item to use as the sort method, double-click the Field Name cell and select the field.

To select a sort order, double-click the Sort Order cell and choose Ascending or Descending.



Click Add to specify additional sort criteria.

Filtering Data

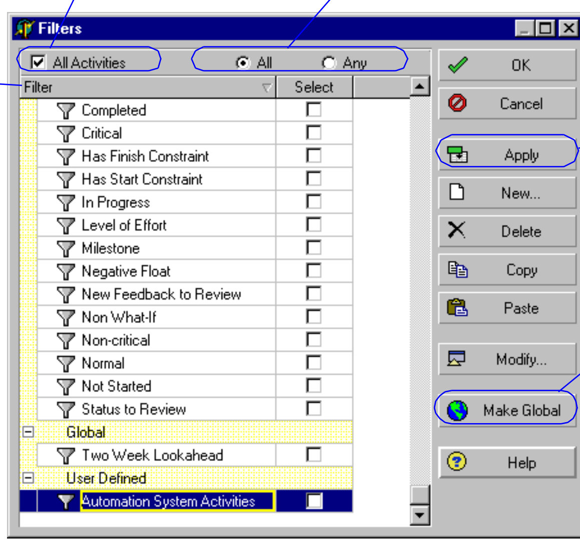
Use filters in P3e to focus on specific data. A filter is a set of instructions that determines which data are displayed in P3e. You can create one set of filters for activities and one set for projects, or use P3e's predefined filters. Filters can be user-defined or global. User-defined filters are filters that you define. They are available only to you for all projects to which you have access. Global filters are available to all users for all projects.

Select a filter To select activities for the project currently open, in the Activities window click the Layout Options bar, then choose Filters. To filter the projects in the Projects window, click the Display Options bar, then choose Filter By. Mark the checkbox beside each filter you want to apply.

To view all activities (and remove all filters), mark this checkbox.

Choose All and Any to combine multiple filters. Combining filters further narrows the selected data.

These predefined filters are available when you are selecting activities in the Activities window. A different set of predefined filters is provided when you filter by projects in the Projects window.



Click to see how a filter works before you commit to it.

To convert a user-defined filter into one that all P3e users can access, select it, then click Make Global.

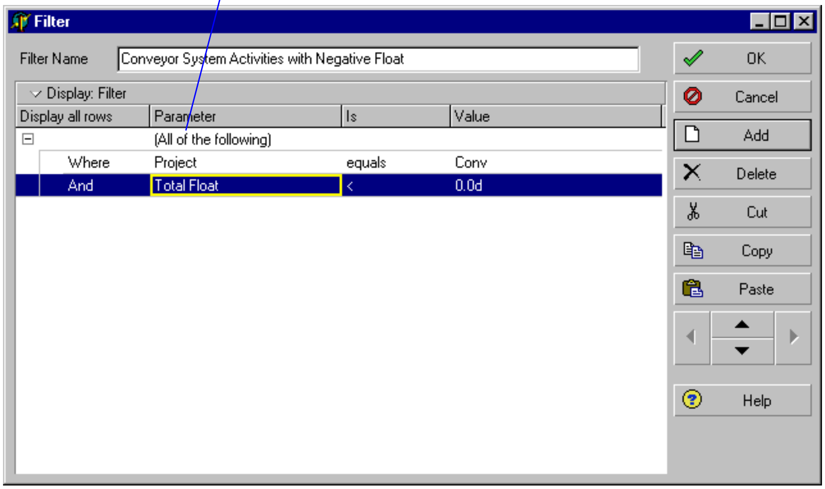
You can also customize individual filters when creating tracking layouts or reports (using the Report Wizard).

To view a user-defined or global filter's settings before applying it, select it, then click Modify. To view the criteria for a predefined filter, first copy and paste it. The filter is copied to the user-defined list, which you can then modify.

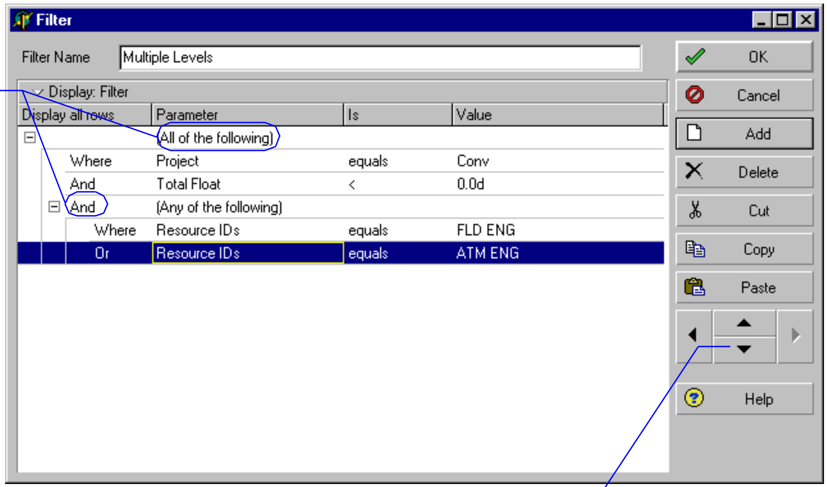
Create a user-defined filter In the Activities window, click the Layout Options bar, then choose Filter. You can also click the Display Options bar from the Projects window and choose Filter By, Customize. Click New. Type a filter name. Click the Parameter cell and select a data item. Double-click the Is cell to select a filtering criteria. Specify a value in the Value field. If the values require a specific entry, you can select from a drop-down list. For example, if filtering by activity type, you must select from a list of the available types.

Click Add to define multiple selection criteria. Specify whether all criteria must be met or at least one criteria.

If you specify that All criteria must be met, P3e joins each statement with an "And." If Any criteria can be met, an "Or" is used.



You can "nest" criteria to create multiple levels of selections. If you specify the topmost parameter as All of the Following, each successive level selects from only the activities/projects that meet the criteria of previous levels. If you specify Any of the Following as the highest parameter, each group of criteria is separated by an "Or."



A second set of criteria is joined by an And because All of the Following is specified as the highest parameter. This filter selects all activities with negative float that belong to the Conveyor System project and have either an automation system or field engineer assigned.

To "nest" a set of criteria within another set, select the line of criteria, then use the arrow keys to indent it.

Remove filters Click the Layout Options bar, then choose Filter. To remove a specific filter, clear the Select checkbox for the filter you want to remove. To remove all filters, mark the All Activities or All Projects checkbox. To preview your changes, click Apply.

Delete user-defined activity filters Click the Layout Options bar, then choose Filter. Select the filter you want to delete, then click Delete. You can only delete user-defined filters.

Combining Filters

To create a filter that selects any activity from one selection criteria *and* any activity from another selection criteria, you must define two separate filters and then combine them when you run the filters. For example, to select any activity belonging to the Engineering group that is not complete, you might create one filter that selects any activity that falls under various WBS levels (specific to the Engineering group), and another filter that selects any activity with remaining labor units greater than zero. To run the filters, choose All and mark the checkboxes for the two filters on the Filters dialog box.

Customizing and Printing Layouts

In this chapter:

You can customize layout columns, set the timescale, modify Gantt chart bars, specify the look of PERT boxes, and modify Resource and Activity Usage Profile settings to help you monitor project performance.

Read this chapter to learn how to customize and print activity layouts and save layouts as HTML reports.

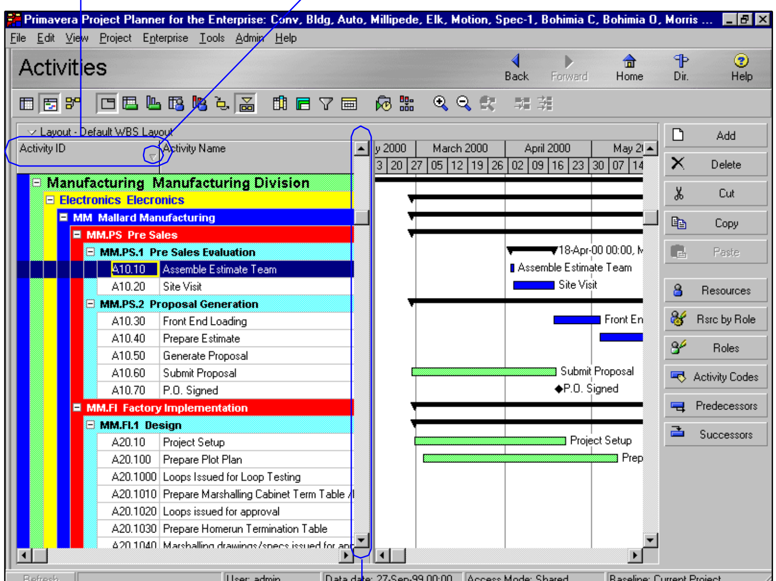
Modifying Columns

You can customize the look and content of the columns included in tables and spreadsheets in the Activities window. Choose which columns you want to include; change the column widths, the order in which columns are displayed, and the row height; specify column fonts and colors; edit column titles; and copy column formats from other layouts.

You can also customize the columns displayed in most P3e windows, such as Projects, Resources, WBS, and Issues.

To move a column, click and drag it to a new location.

Click a column title to toggle the sort order from ascending to descending. The down arrow indicates that the data are sorted in descending order.

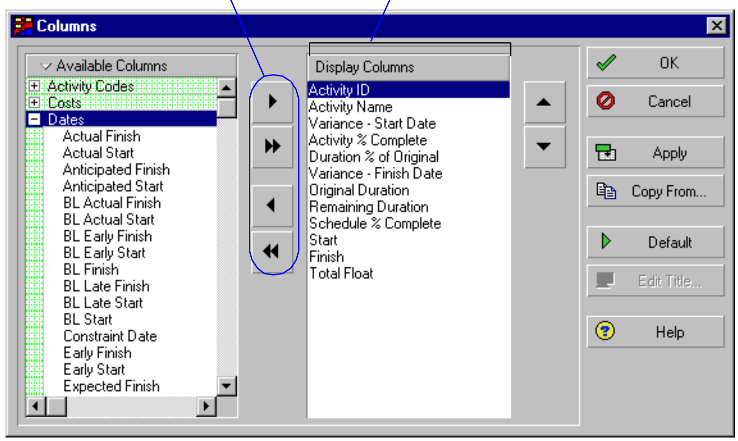


To view columns, click and drag the divider bar.

Add or remove columns In the Activities window, click the Layout Options bar, then choose Columns.

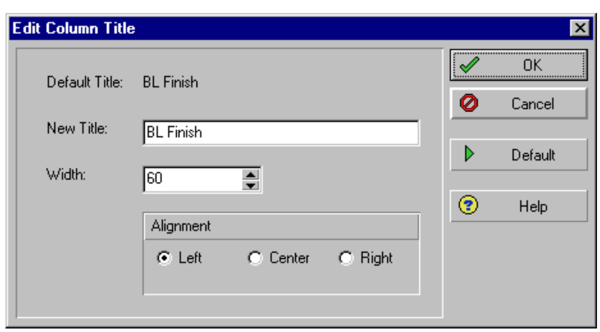
To include a column in the layout, select it in the Available Columns list, then click the right arrow. To remove a column from a layout, select it in the Display Columns list, then click the left arrow. Click the double-arrows to add or remove all columns at once.

The sequence of columns in the layout will be the same as their order in this list. Click the up and down arrows to move columns higher or lower in the list.

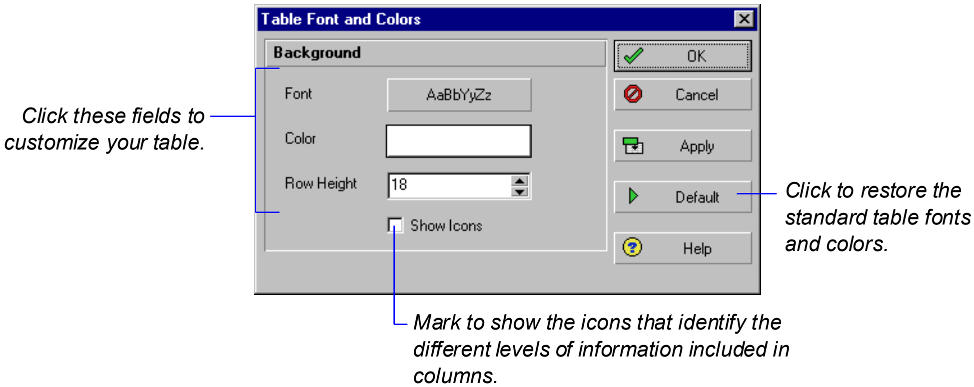


Copy column format from another layout In the Columns dialog box, click the Copy From button. Select the layout and click Open.

Edit column titles In the Available Columns or Display columns area of the Columns dialog box, select the column name you want to change. Click Edit Title. Type the new name, then specify the maximum number of characters for the column width. Choose how the title will be aligned in the column header.



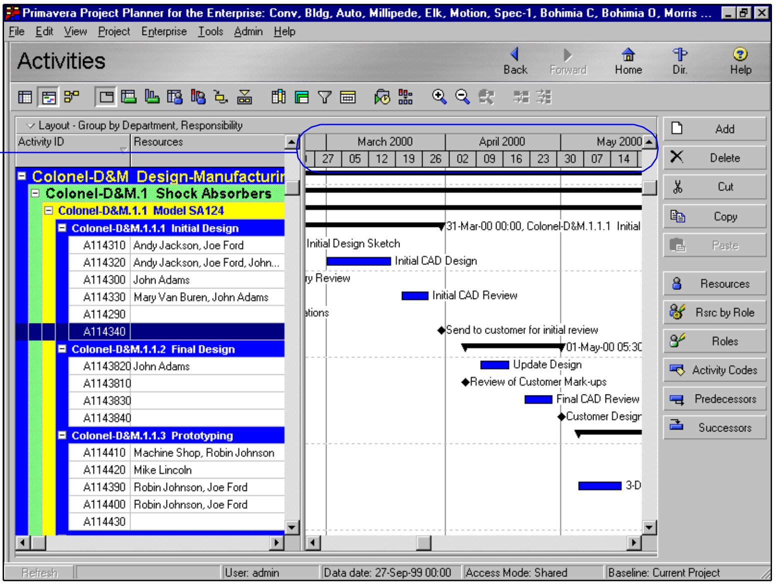
Change column fonts, colors, and row height From the Activities window, click the Layout Options bar, then choose Table Fonts and Colors. To change a font, click the Font button, then select a new font. To change a color, click the Color button, then select a new color. You can also specify the height for rows.



Adjusting the Timescale

Gantt charts, Activity and Resource Usage Spreadsheets, and Activity and Resource Usage Profiles display a timescale that starts just before your project begins and extends until your finish date. This timescale can be shown in units of years, quarters, months, weeks, days, shifts, and hours. You can expand or condense the timescale view to control the size of the bars or columns that appear in the layout.

To show data for different months in the layout, click and drag a month's column.



To manually expand or condense the timescale, click and drag the date in a month. You can also right-click in the Bar area and choose Timescale to change the timescale settings.

Change the timescale of a profile or Gantt chart In the Activities window, open a profile, spreadsheet, or Gantt chart. Click the Layout Options bar and choose Timescale. In the Projects window, right-click in the bar area of a Gantt chart and choose Timescale.

To select the date from which the timescale should start for the profile or Gantt chart, in the From Start Date field click the Browse button. Select the date intervals at which data are displayed, then choose the format in which to display date intervals: Calendar, Fiscal, Manufacturing Weeks, or Ordinal Dates. For ordinal dates, select the start date and display unit.

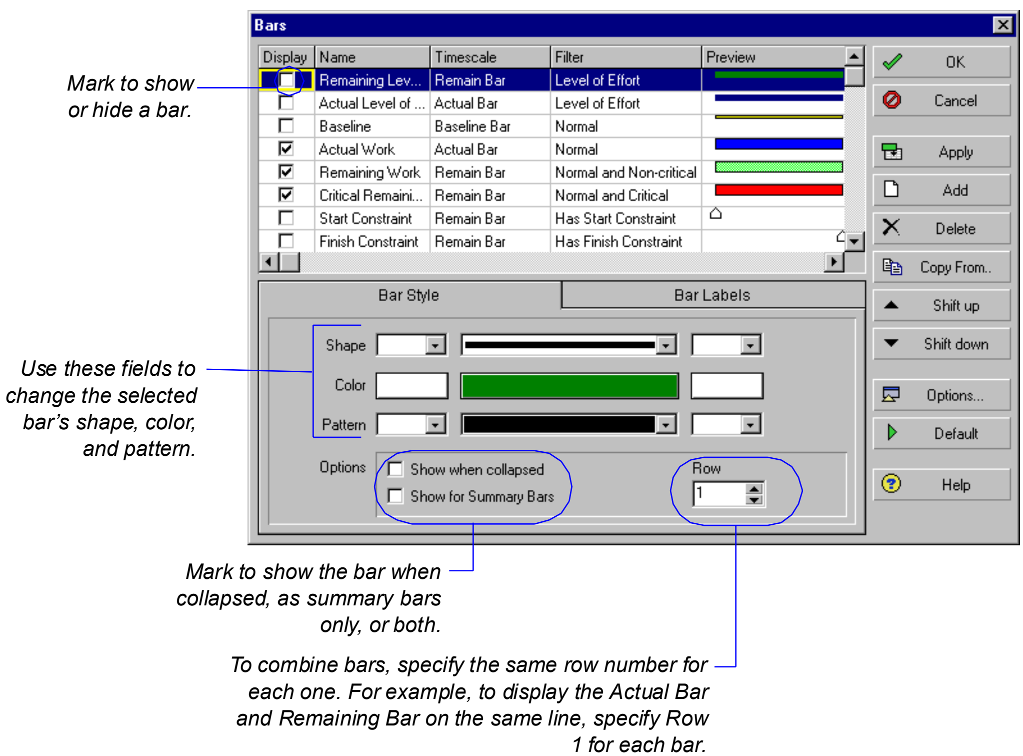
Timescale settings apply to both the top and bottom layouts.

Formatting Gantt Charts

A bar in a Gantt chart can represent many things, for example, a milestone, early and late dates for an activity, or summarized data. To visually distinguish the different bars included in a Gantt chart, specify unique colors, shapes, and patterns. You can display Gantt chart in the Projects window when reviewing the EPS, or in the Activities window when reviewing specific projects.

Add and delete bars From the Activities window, click the Layout Options bar, then choose Bars. From the Projects window, click the Display Options bar, then choose Bars. Click Add. Type a name for the new bar, then select the timespan the bar represents from the Timescale drop-down list. Double-click the Filter field, then mark each filter you want to apply. Click OK.

To delete a bar, select it in the Bars dialog box, then click Delete.



Change a Gantt chart bar's timespan Click the Layout Options bar (Activities window) or Display Options bar (Projects window), then choose Bars. Select the Gantt chart bar for which you want to change the timescale. Double-click the Timescale column, then select the new timescale.

To represent this value:	Select this bar:
Start Date to Finish Date	Current Bar
Percent Complete	% Complete Bar
Planned Start Date to Planned Finish Date	Plan Bar
Actual Start Date to Actual Finish Date	Actual Bar
Remaining Start Date to Remaining Finish Date	Remain Bar
Baseline Planned Start Date to Baseline Planned Finish Date	Baseline Bar
Early Start Date to Early Finish Date	Early Bar
Late Start Date to Late Finish Date	Late Bar
Remaining Finish Date to Late Finish Date	Float Bar

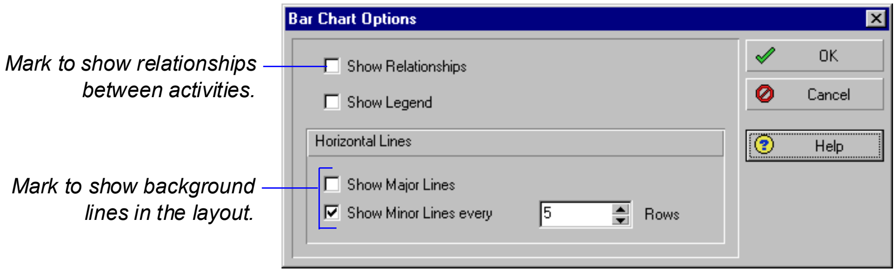
Change a Gantt bar's style In the Bars dialog box, select the Gantt chart bar you want to change. Click the Bar Style tab. To specify the shape, color, and pattern of the bar's Start Endpoint (first field), the height and thickness of the bar (second field), and the Finish Endpoint (end field), click each corresponding field and select a shape.

Change a Gantt chart bar's label You can choose to display a bar label, which acts like a title in describing the bar's purpose. In the Bars dialog box, select the Gantt chart bar you want to change. Click the Bar Labels tab. To add a label, click Add. Double-click the Label field, then select the label value. To remove a label, select it in the Bar Labels tab, then click Delete.

To change the position of a label, select it, then double-click the Position column and select a new position.

Apply Gantt chart settings from another layout In the Bars dialog box, click Copy From. Select the layout with the Gantt chart settings you want to apply. To apply the selected layout's settings and close the dialog box, click Open.

Show or hide relationship lines in the Gantt chart In the Bars dialog box, click Options. Mark the Show Relationships checkbox to display relationship lines in the Gantt chart, or clear the checkbox to hide relationship lines.

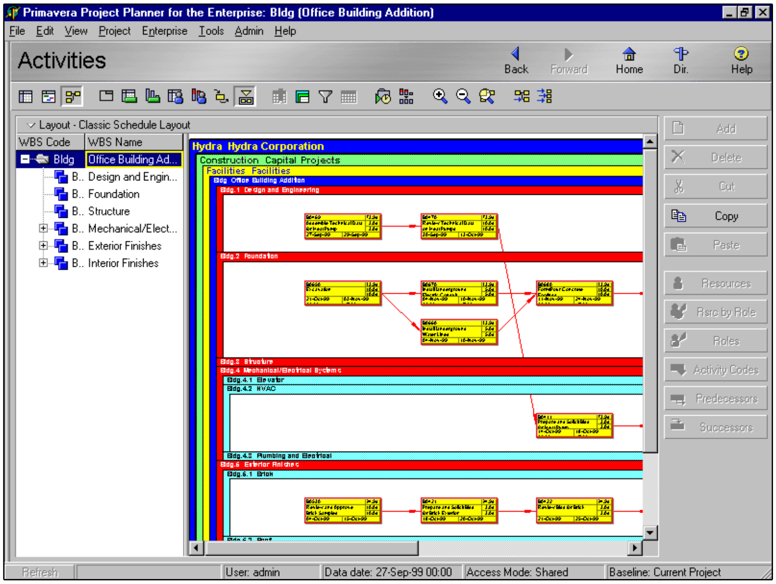


Show or hide the Gantt chart legend In the Bars dialog box, click Options. Mark the Show Legend checkbox to display the Gantt chart legend, or clear the checkbox to hide the Gantt chart legend.

Change the background lines in the Gantt chart In the Bars dialog box, click Options. To show background horizontal lines before every Summary bar, mark the Show Major Lines checkbox. To show background horizontal lines before every X number of rows, mark the Show Minor Lines Every checkbox and then type or select the row interval at which you want to the minor lines to be displayed.

Formatting PERT Layouts

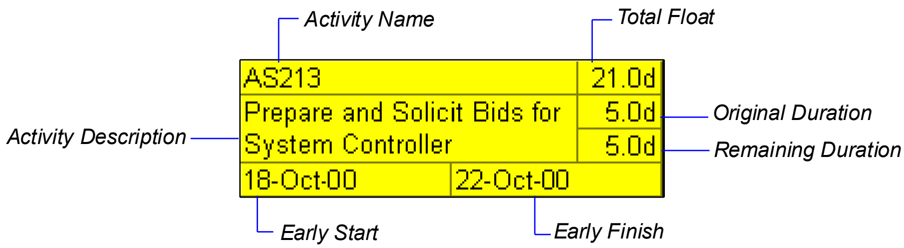
The PERT layout displays a project as a diagram of activities and relationships, according to the work breakdown structure (WBS). You can control nearly every aspect of PERT, including the appearance of activities, the contents of activity boxes, and the spacing between activities.



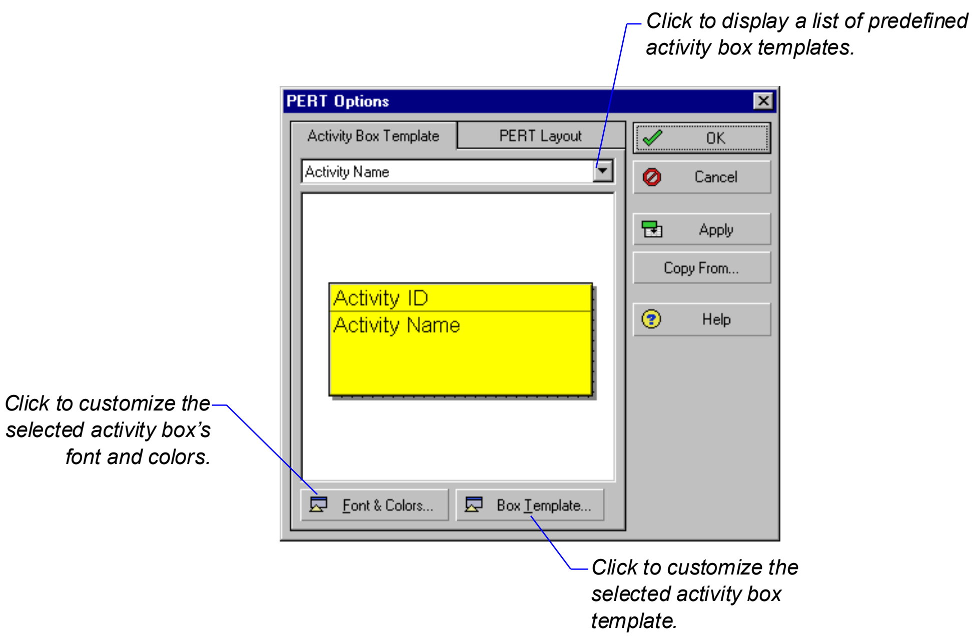
You can use a PERT layout to

- Easily view relationships among activities and the flow of work through a project
- Examine and edit an activity and its predecessors and successors
- Focus on the driving relationship path

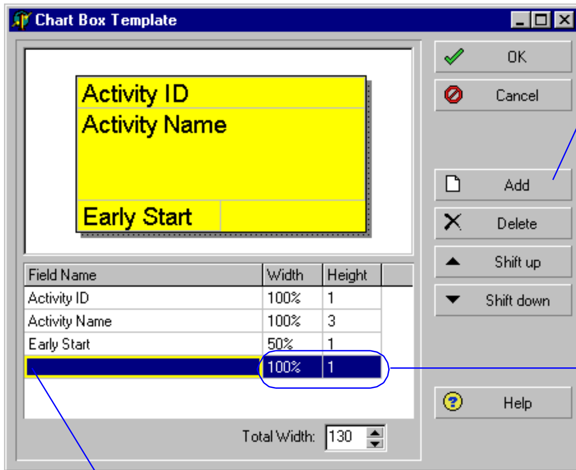
A PERT box visually represents a project activity. When customizing boxes, you can specify particular fonts and colors, set spacing and positioning, and copy styles from another layout.



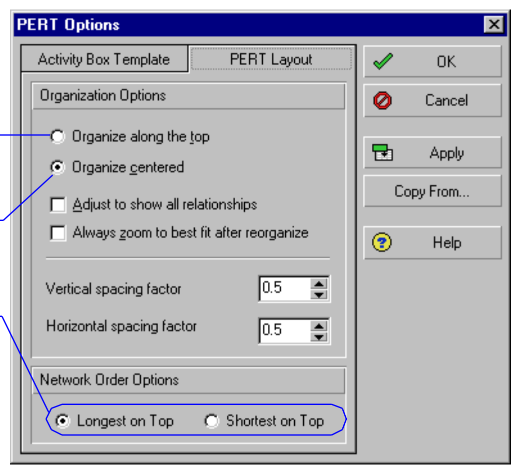
Choose a PERT box template With a PERT layout displayed in the Activities window, click the Layout Options bar, then choose PERT Options. Click the Activity Box Template tab.



Customize a PERT box template You can use one of the predefined activity box templates, or customize your own. With a PERT layout displayed in the Activities window, click the Layout Options bar, then choose PERT Options. Click the Activity Box Template tab. From the drop-down list, select a template that is similar to the one you want to create, then click Box Template. You can add rows for inserting new fields and determine how high and wide the field cells should occupy within the activity box.



Customize the PERT layout With a PERT layout displayed in the Activities window, click the Layout Options bar, then choose PERT Options. Click the PERT Layout tab.



When an activity's predecessor/successor is not immediately adjacent to its activity in PERT, the relationship line may not be visible because of other activity boxes. To reposition activity boxes so that all relationship lines are visible, mark the Adjust to Show All Relationships checkbox.

To have P3e automatically determine the view that best shows all activity boxes in the layout after you have reorganized it, mark the Always Zoom to Best Fit After Reorganize checkbox.

To change the amount of vertical space between activity boxes in PERT, specify a spacing factor that is a percentage of the height of activity boxes in the PERT table.

To change the horizontal space between activity boxes in PERT, specify a horizontal spacing factor that is a percentage of the width of activity boxes in the PERT table.

Copy from another PERT layout With a PERT layout displayed in the Activities window, click the Layout Options bar, then choose PERT Options. Click Copy From. Select the PERT layout whose attributes you want to copy. Click Open.

In PERT, when you select a data item for grouping, the hierarchy on the left side of the window contains the WBS so you can filter activities according to the hierarchy. You can change the hierarchy by choosing a different data item, such as a project code or an activity code.

Modifying Resource and Activity Usage Profile Settings

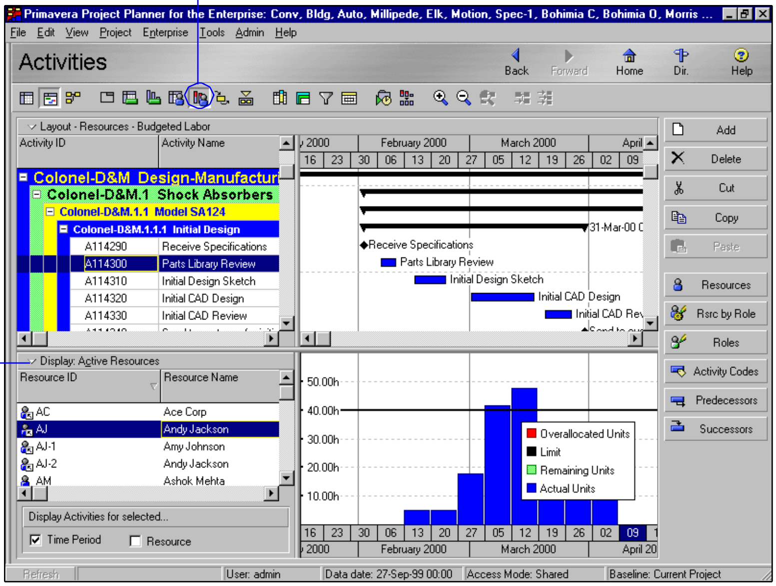
The Activity Usage Profile displays a time distribution of activity units and costs in a Bar chart format. You can customize all aspects of this display, and you can also filter the information it contains.

The Resource Usage Profile displays a time distribution of resource units and costs in relation to activities in a Bar chart format. You can also customize and filter the settings for this layout.

P3e provides several ways to customize Resource and Activity Usage Profiles. Select the type of information you want to display, change the timescale, and customize the bars and background.

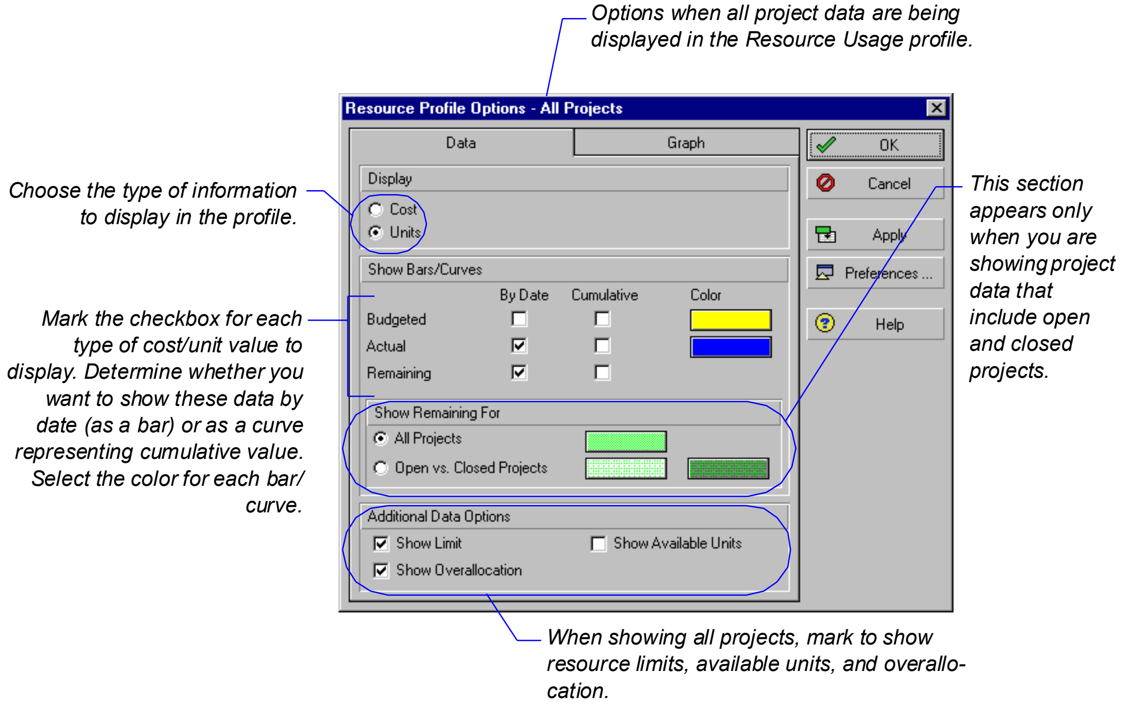
You can also click this icon to display the Resource Usage Profile in the bottom layout.

Click the Display Options bar and choose Show All Projects to show data for all projects. If you do not choose this option, only data for open projects are shown.



When showing all projects, P3e calculates resource distributions at the resource level. When showing open projects, calculations are made at the activity assignment level.

Format resource data settings Display the Resource Usage Profile in the bottom pane of the Activities window. Click the Layout Options bar, then choose Bottom Layout Options. Click the Data tab, then specify the type of data to display in the profile and the way it will be represented. You can also right-click in the resource profile area and choose Resource Profile Options. The data options differ slightly depending on whether you are showing data for all projects or only open projects.

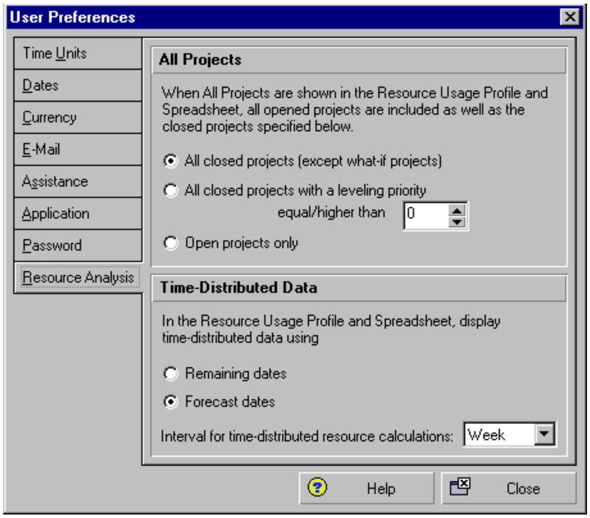


For detailed instructions on customizing Activity and Resource Usage profiles, see the online help.

When showing all project data, choose how to display remaining unit or cost distributions for all or open versus closed projects. (A closed project is any project that is not currently open in P3e.) Click Preferences to define whether All Projects includes open and/or closed projects.

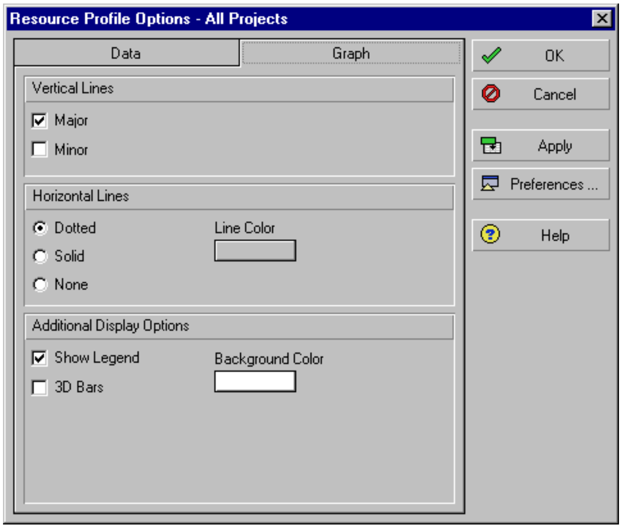
For more information about setting user preferences, see the *Setting Up User Preferences* chapter.

Set user preferences for resource analysis Click Preferences in the Resource Profile Options dialog box to specify whether to include data from open and closed projects, or only the projects currently open in P3e when calculating remaining units and costs. (Closed projects are any projects in the enterprise project structure (EPS) that are not currently open in P3e.) You can also specify whether you want P3e to use remaining or forecast start and finish dates to display resource units and cost values, and select the interval at which live resource and cost calculations are performed for resource profiles and spreadsheet displays and in tracking layouts—hour, day, week, or month.



To see overallocation for a resource in a specific project, choose Show All Projects in the Display Options bar, and mark the Open Projects Only option in the User Preferences dialog box.

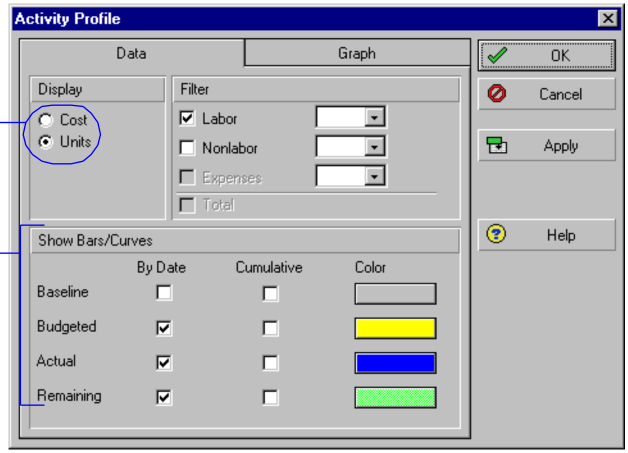
Format resource graph settings Click the Graph tab. Mark the checkbox next to each time unit for which you want to display a vertical line in the background at the beginning of the unit section. Choose the type of horizontal line you want to display for each number along the side of the profile, then select the line color. To display a legend for the profile's bars, mark the Show Legend checkbox. To display the profile's bars in 3D, mark the 3D Bars checkbox. To change the profile's background color, click Background Color and select a new color.



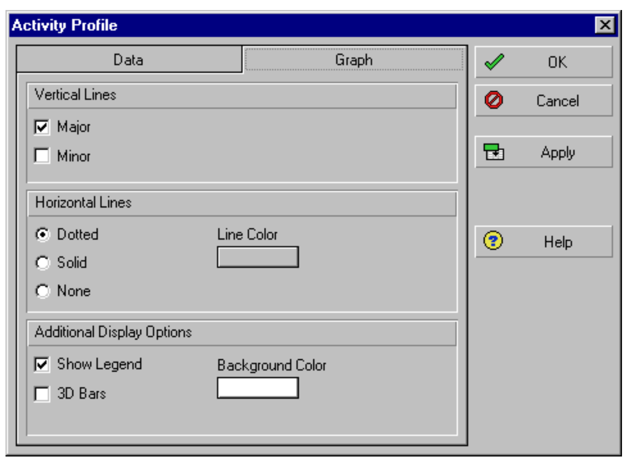
Format activity data settings Display the Activity Usage Profile in the bottom pane of the Activities window. Click the Layout Options bar, then choose Bottom Layout Options. Click the Data tab. Mark the checkbox next to each type of filter you want to use to select the data included in the profile. Then select the pattern that will be used to display each data type. Mark the Total checkbox to display the total cost. Select more than one filter to see a combination of values in the activity profile.

Choose the type of information to display in the profile.

Mark the checkbox for each type of cost/unit value to display. Determine whether you want to show these data by date (as a bar) or as a curve representing the cumulative value. Select the color for each bar/curve.



Format activity graph settings Click the Graph tab. Mark the checkbox next to each time unit for which you want to display a vertical line in the background at the beginning of the unit section. Mark the checkbox next to the type of horizontal line you want to display for each number along the side of the profile. Then select the line color. To display a legend for the profile's bars, mark the Show Legend checkbox. To display the profile's bars in 3D, mark the 3D Bars checkbox. To change the profile's background color, click Background Color and select a new color.



Printing Layouts and Creating HTML Reports

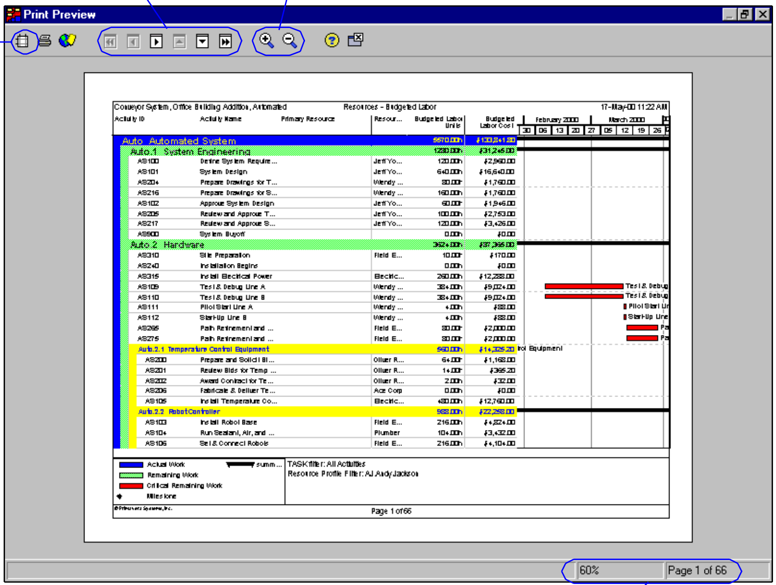
You can print layouts, and you can save them as HTML reports that can be included in a project Web site.

Preview and print a layout You may want to see how a layout looks before you print it. Display the layout in the Activities window, then choose File, Print Preview.

Use these icons to move to the beginning of the report, scroll through it one page at a time, or move to the end of the report.

Click to zoom in and out of the displayed page.

When you are satisfied with the look of the report, click to print it.



The status bar indicates the size at which the report is currently magnified, the number of the page that is currently displayed, and the total number of pages in the report.

For detailed instructions on setting page and print options for layouts, see the online help.

As you move your mouse over the report, the mouse pointer changes to a magnifying glass. Click the Zoom In icon in the toolbar to zoom in on report details and the Zoom Out icon to zoom back out. Click the Print icon to print the report.

Print a layout as an HTML file Select the layout you want to save as an HTML file. Choose File, Print Preview. Click the Publish icon. Type a name for the file, and select the drive and folder where it should be stored. Click Save. P3e opens the layout in your Web browser.

Customizing and Printing Reports

In this chapter:

Reporting is a key part of monitoring a project and communicating its progress to team members and executive management. This chapter discusses how to create reports, preview them, define their print settings, and convert them to Web reports. It also describes how to use batch reports, which enable you to print several reports at one time.

Reports Overview

In P3e you can create new reports, or modify existing ones, using the Report Wizard or Report Editor. P3e provides you with a large library of standard reports.

The Report Wizard allows you to create a wide variety of complex reports very rapidly using a wizard-style interface. You can also use the wizard to modify reports created using the wizard.

The Report Editor is a “what-you-see-is-what-you-get” (WYSIWYG) report writer that allows you to group, sort, filter, and roll up project information. You can also display time distributions for units and costs, and include graphics and HTML links in reports.

After you create a report, you can preview, print, or save it to a text or HTML file. If you save a report to a file, you can import the data to a spreadsheet program, e-mail the report, publish the report on a Web site, and/or archive the report.

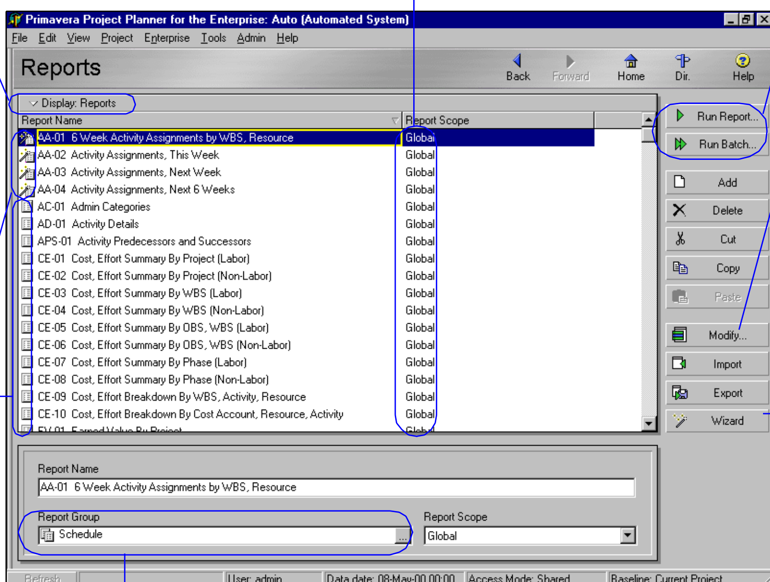
Opening and Previewing Reports

Use the Reports window to create, edit, run, and delete global and project reports. You can also use the Reports window to export and import reports to and from other P3e Enterprise applications.

The Print Preview option allows you to review the report before sending it to a printer.

Open the Reports window Choose Tools, Reports, Reports.

Reports can be global or project specific. Global reports link to Portfolio Analyst.



Click the Display Options bar to sort and filter the reports listed in this window and to define screen fonts and colors.

Indicates that these reports were created using the Report Wizard

Indicates the reports were created using the Report Editor

Print single or batch reports.

Click to build reports using the Report Editor.

Click to easily create ad-hoc reports.

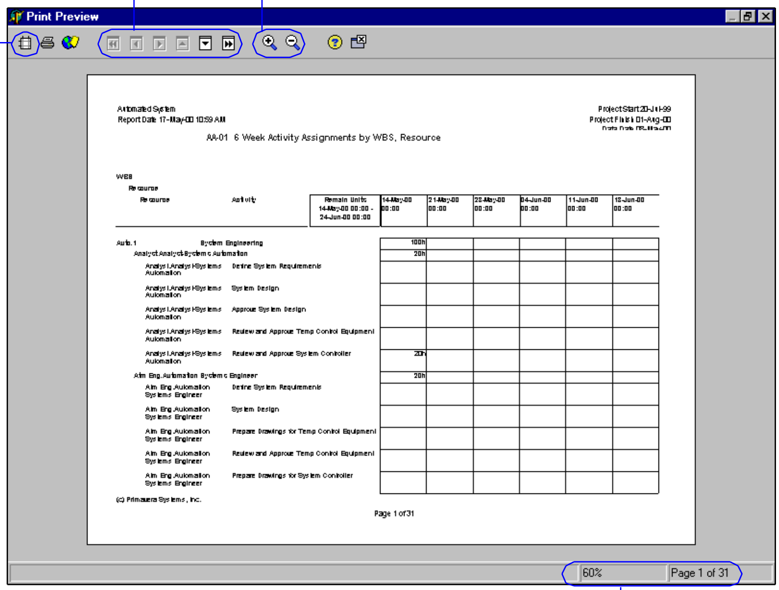
Each report can belong to one report group. To add, modify, or delete these groups, choose Reports, Report Groups.

Open Print Preview In the Reports window, select the report you want to preview, then click Run Report. Choose Print Preview, then click OK.

Use these icons to move to the beginning of the report, scroll through it one page at a time, or move to the end of the report.

Click to zoom in and zoom out of the displayed page.

When you are satisfied with the look of the report, click to send the report to the printer.



The status bar indicates the report magnification, the page that is currently displayed, and the total number of pages in the report.

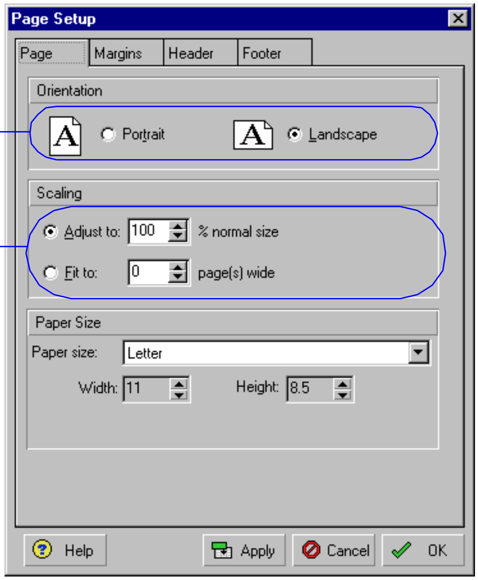
Defining Page Settings

P3e provides many options for customizing printed reports. For example, you can customize header and footer settings and change margins for the printed page.

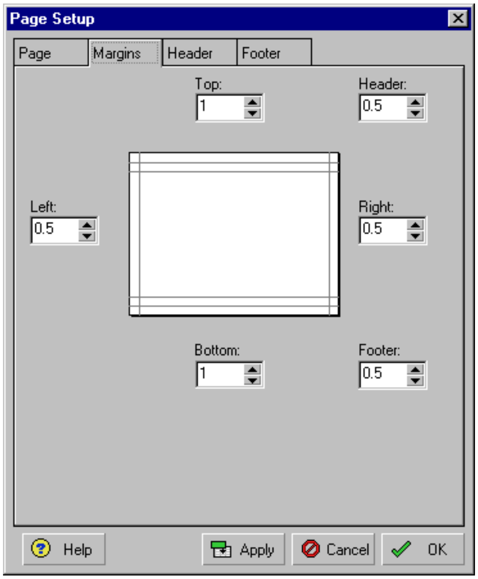
Define page settings From the Print Preview window, click the Page Setup button. Click the Page tab to set orientation, scaling, and paper size.

Portrait reports print vertically on the page; landscape reports print horizontally on the page.

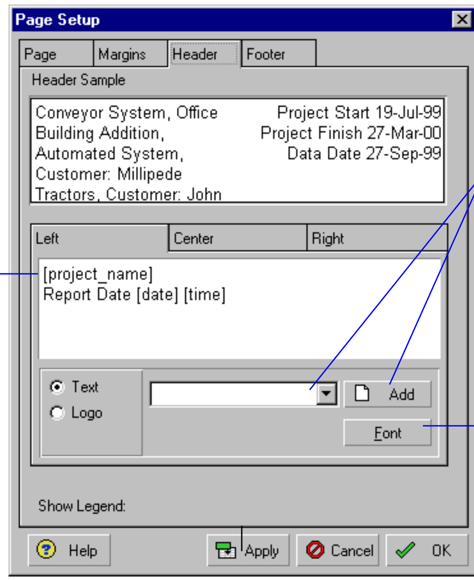
To increase or reduce the size of the printed report, specify a percentage in the Adjust To field. To increase or reduce the number of pages to be printed horizontally and vertically, click Fit to, then specify a value in the Pages Wide field.



Set page margins Click the Margins tab, then specify the values for each margin.



Add headers and footers You can define a standard header and footer for a report. In a compiled report, the standard header appears at the top of every page. The standard footer appears at the bottom of every page. You can also insert a graphic, such as your company logo, into the report header or footer. Click the Header or Footer tab.



Add text to the header or footer by typing directly in the selected tab. Do not modify any text between square brackets ([and]).

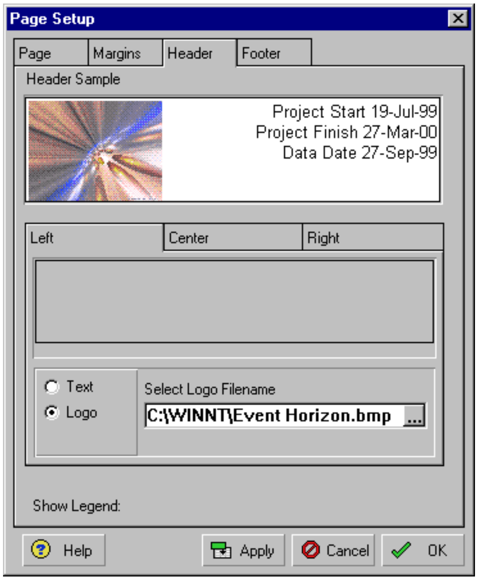
Select a global variable and choose Add. Global variables include current project properties (project name, project start, data date, and so on) and Admin Preferences (header/footer/custom label 1/2/3).

Click to change the font, then specify font settings and click OK.

Click the Left, Center, or Right tab to define the values you want to insert and their position in the header or footer of the report. Choose Text.

The Header/Footer Sample shows how the report header/footer will appear when printed. You can add more than one global variable or add text to each section of the header.

Add a logo to a header or footer Click the Header or Footer tab, then choose Logo. Click the Browse button in the Select Logo Filename field, then select a filename and click Open. The selected folder and file name is displayed in the Select Logo Filename field, and the logo image is displayed in Header or Footer Sample area.



If you change the report page setup from the Print Preview dialog box, the changes will be applied only to the current printing. To save changes to the report page setup permanently, make the changes from the Properties palette in the Report Editor.

Creating or Modifying Reports

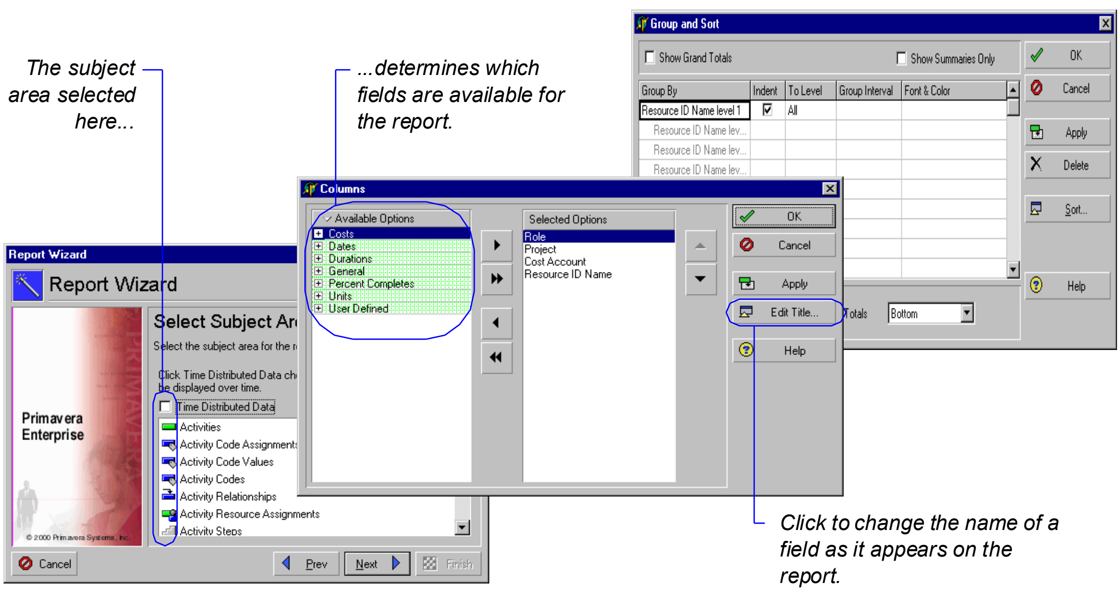
For additional information about creating and modifying reports using the Report Wizard and Report Editor, see the online help.

You can create and modify reports using P3e's Report Wizard or Report Editor.

The Report Wizard quickly steps you through creating ad-hoc reports and enables you to group, sort, and filter the data. A report originally created by the Report Wizard may be modified using the Report Wizard, as long as it has not been modified using the Report Editor.

To include a new report in a particular report group, select the report group in the Reports window before you start the wizard. When you finish creating the report, it will be saved in the selected report group.

Create a report with the Report Wizard Choose Tools, Report Wizard, and follow the prompts.



When you are finished defining the report parameters, click Finish.

Modify a report You can modify reports using the Report Wizard and the Report Editor. In the Reports window, select the name of the report you want to modify. To use the wizard, click the Wizard button. To use the Report Editor, click Modify.

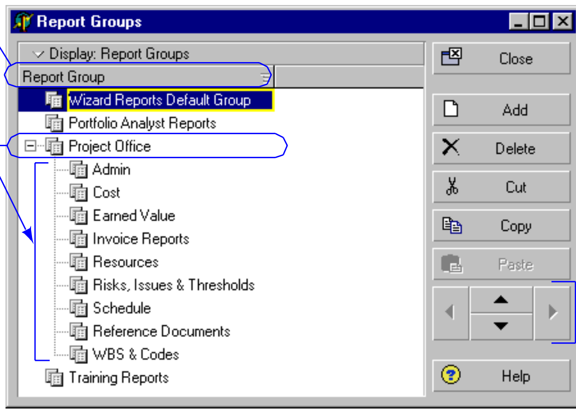
Creating Report Groups

Report groups are a hierarchical way to organize global and project reports. Each report can belong to one report group.

Add a report group Choose Tools, Reports, Report Groups. Click Add, then type the name of the new report group.

Click to list report groups in ascending or descending order or as a hierarchy.

Report groups can have multiple levels.



Click to move groups up and down and to indent/outdent to denote hierarchy level.

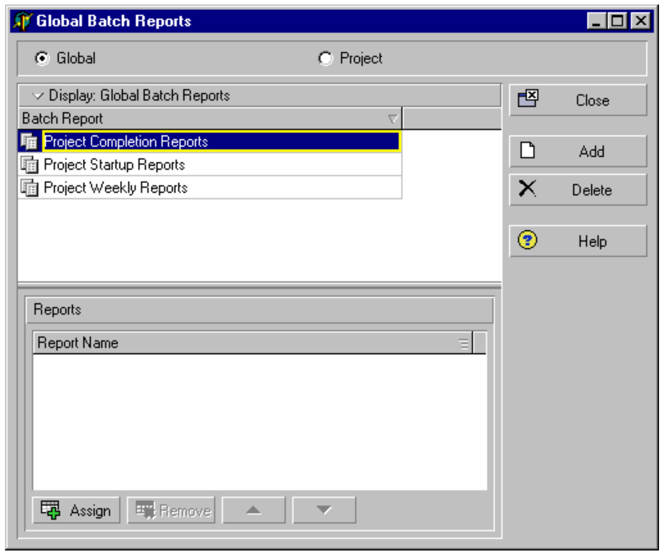
Add a report to a report group Choose Tools, Reports, Reports. Select the report you want to add to a report group, then click the Browse button in the Report Group field at the bottom of the Reports window. Select the group to which you want to add the report, then click Select.

Remove a report from a report group Choose Tools, Reports, Reports. Select the report you want to remove from a report group. Click the Browse button in the Report Group field at the bottom of the Reports window, then select a new report group.

Setting Up Batch Reports

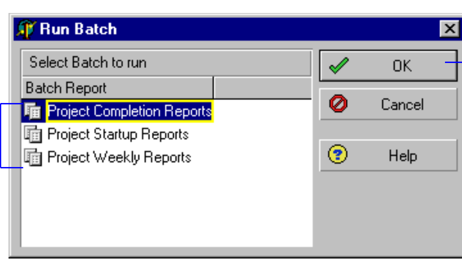
Batch groups allow you to run a series of reports at one time. A report can have only one batch group assignment.

Create a batch report group Choose Tools, Reports, Batch Reports. Choose Global or Project. Click Add, then type the name of the new group. Click Close.



Add reports to a batch report group Choose Tools, Reports, Batch Reports. Select the batch report group, then click Assign. Select the report(s) you want to assign to this group and click the Assign button. When you are finished assigning reports, click the Close button.

Run a batch report From the Reports window, click Run Batch, select the batch you want to print, then click OK.



Select the batch report.

Click to run the batch report.

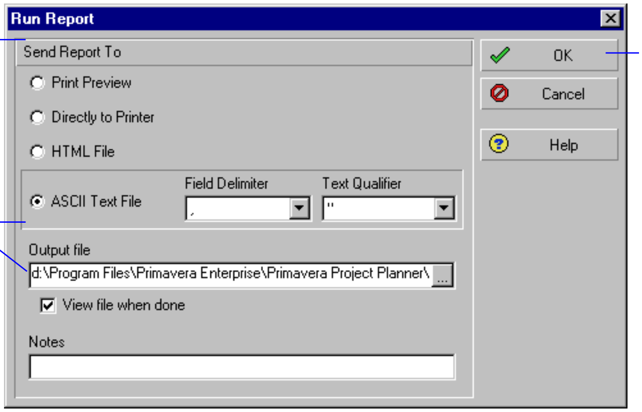
Printing Reports

P3e provides several ways to print reports: to a printer, to an HTML file, or to an ASCII text file.

Print a report From the Reports window, select the name of the report you want to print. Click Run Report.

1 Select the destination for the report. For an ASCII text file, you can also specify the character to use to separate fields and text.

2 For HTML and ASCII files, specify a name and location for the saved file.



3 Click to run the report.

Publishing a Project on the World Wide Web

In this chapter:

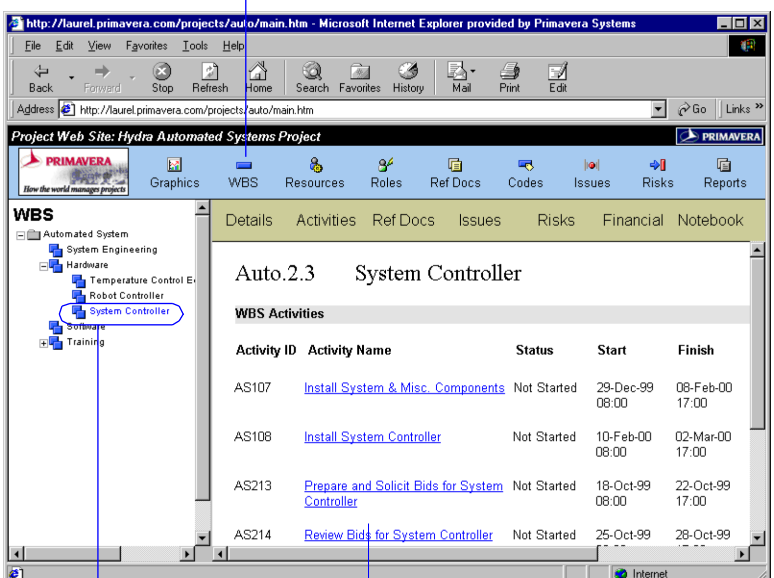
To share project data, you can publish project plans in HTML format using the Project Web Site Publisher. This chapter describes how to publish project data to a Web site in HTML format, customize the appearance of the Web pages of the project Web site, and publish activity and tracking layouts as HTML pages.

Project Web Site Overview

To share project data between company offices local or worldwide, publish project plans to a project Web site that can be accessed by anyone via the World Wide Web or only employees on your office intranet. Using a Web browser, users can then view project documents that contain hypertext links, or jumps, to other pages in the structure, allowing them to move between projects and reports and from page to page within a report.

A project Web site enables users to browse a project plan at a high level and then quickly view more detailed information about specific activities, reference documents, resources, and so on. The project Web site layout is divided into three panes.

The upper pane contains a navigation toolbar for quick access to the various sections of the Web site.



Select the data to view in the left, or navigation, pane...

...and the details for the selected element are displayed in the right pane.

Navigate a project Web site using the project's work breakdown structure (WBS), resource hierarchy, roles, reference documents outline, activity codes, issues, and risks. For example, select a resource in the left pane and view the resource's information and activity assignments in the right pane. Similarly, select a reference document and view the document's details and WBS and activity assignments. The level of detailed information that can be viewed depends on the information you choose to publish.

Also view reports, activity layouts, and tracking layouts in the project Web site. The list of reports or layouts appears in the left pane, and the selected report or layout is displayed in the right pane.

System requirements The Web server to which the project is published must be running Windows NT Server 4.0, with Service Pack 5 or later applied, and Internet Information Server 4.0. Clients can use either Internet Explorer 4.0, Netscape Communicator 4.6, or Navigator 4.07, or later versions.

Netscape Navigator/ Communicator 4.5 and earlier Web browsers may not expand PNG files properly. Other areas of the project Web site can be viewed without difficulty using these Web browsers.

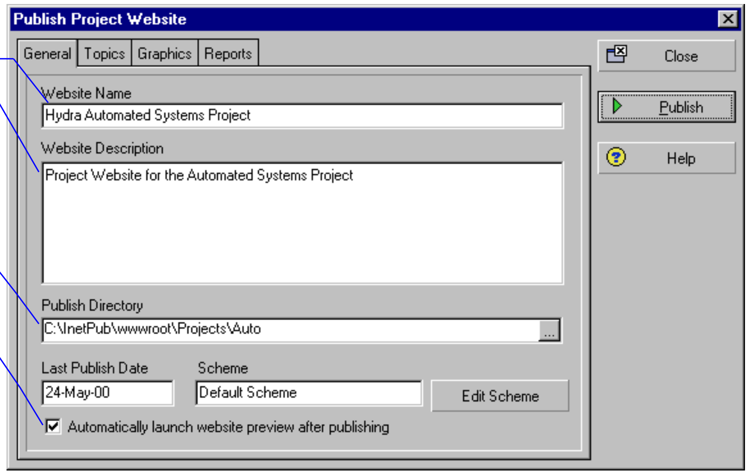
Project Web sites use PNG files to publish some graphic images, such as layouts. Ensure that your Web server's MIME type configuration is set to identify the PNG file type as image/png. In the Windows NT Explorer window, choose View, Options, and click the File Types tab. Scroll down to view the settings for PNG files. If the content type (MIME) is not set to image/png, select PNG Image from the list of types, then click Edit and change the setting.

Publishing a Project Web Site

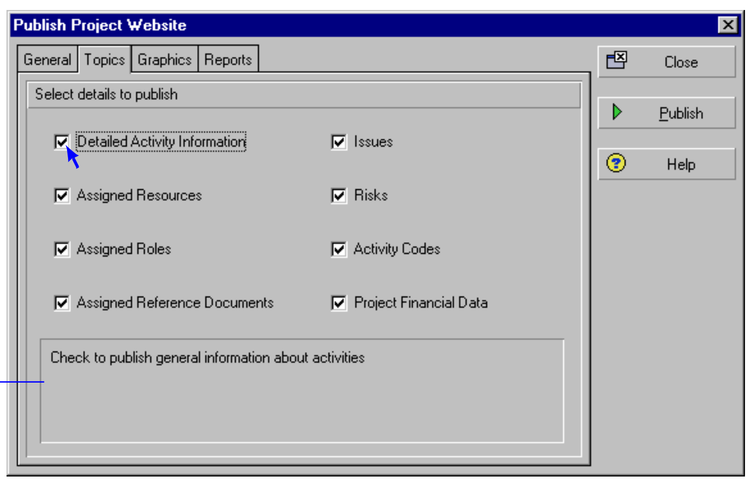
When publishing a project Web site, you control the level of detail published, as well as the project reports and layouts included.

Publish a project Web site Open the project you want to publish. Choose Tools, Publish, Project Website.

Click the General tab to specify general information about the Web site.

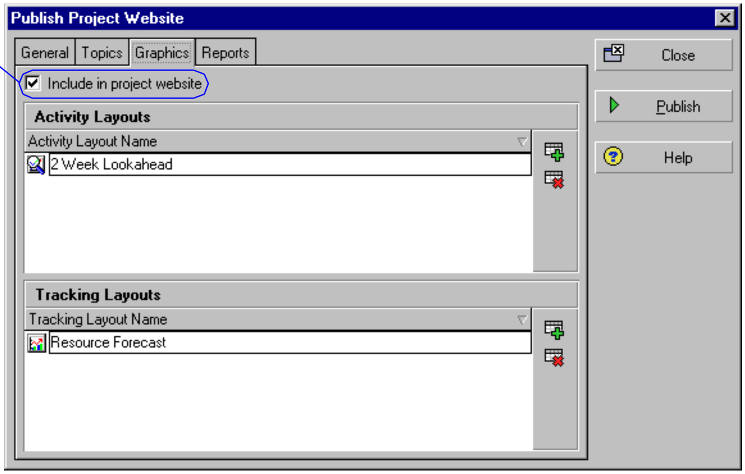


Click the Topics tab to determine the detailed data to publish to the Web site. If all checkboxes are cleared, only WBS data are published. Mark the checkbox next to each type of information to include.



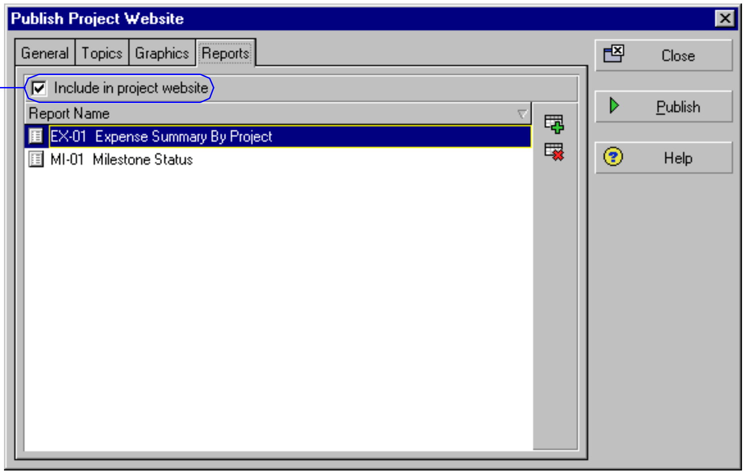
Click the Graphics tab to select existing activity and tracking layouts to publish to the project's Web site. Define activity layouts in the Activities window and tracking layouts in the Tracking window.

Mark to include the selected activity and tracking layouts on the project Web site.



Click the Reports tab to select existing reports to publish to the project's Web site. Reports are defined in the Reports window.

Mark to include the reports on the project Web site.



Click Publish to create the project Web site.

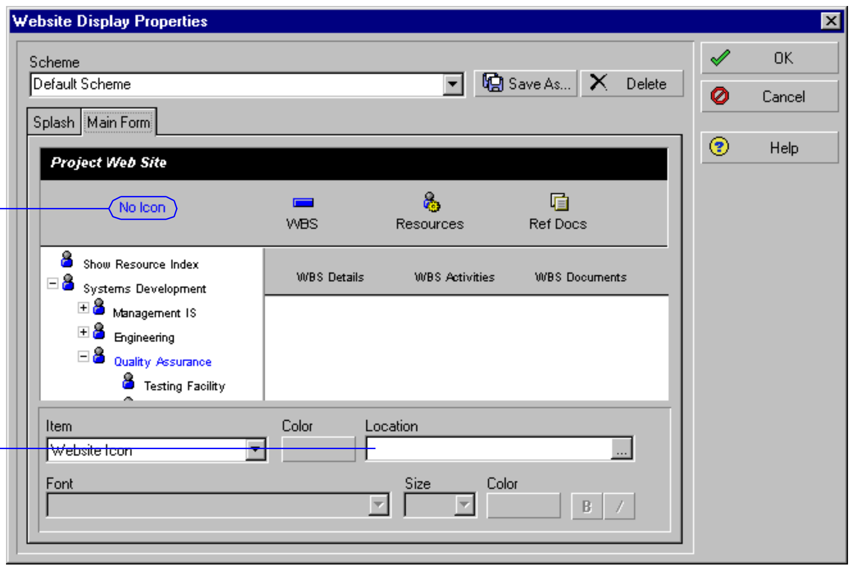
Customizing the Appearance of a Project Web Site

P3e includes a standard, or default, Web site scheme you can use to build your project Web site. You can customize the existing scheme or create your own by adding or changing graphics, fonts, and colors.

Customize a Web site scheme Choose Tools, Publish, Project Website. Click the General tab, then click Edit Scheme. Select a Web site element from the Item field and modify its settings. Click OK.

Click to specify the Web site icon...

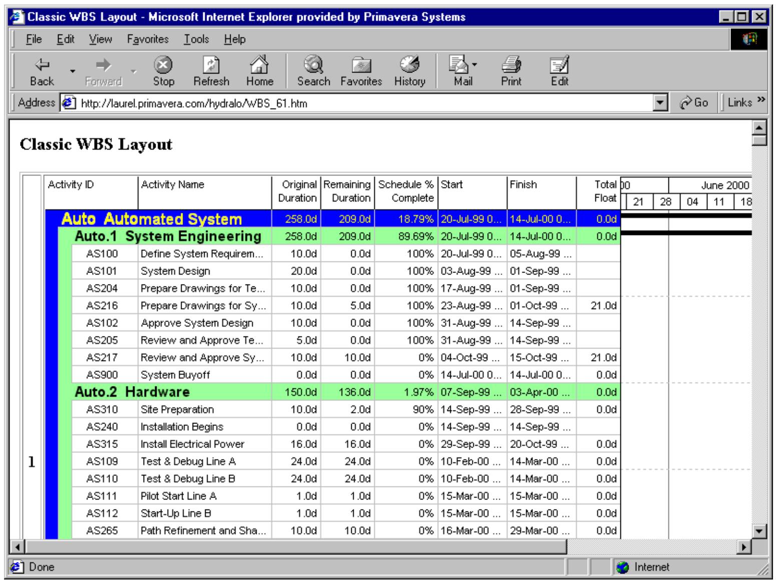
...then select the icon file and location.



You may want to create a copy of the default scheme and then make your changes to the copy. Click Save As, then type a new name.

Publishing Activity and Tracking Layouts

You can also save individual activity and tracking layouts as HTML files, which can be posted to a Web site or your corporate intranet. These layouts are not linked to any project Web site that you may have created previously.



Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish	Total Float
Auto	Automated System	258.0d	209.0d	18.79%	20-Jul-99 0...	14-Jul-00 0...	0.0d
Auto.1	System Engineering	258.0d	209.0d	89.69%	20-Jul-99 0...	14-Jul-00 0...	0.0d
AS100	Define System Requirem...	10.0d	0.0d	100%	20-Jul-99 0...	05-Aug-99 ...	
AS101	System Design	20.0d	0.0d	100%	03-Aug-99 ...	01-Sep-99 ...	
AS204	Prepare Drawings for Te...	10.0d	0.0d	100%	17-Aug-99 ...	01-Sep-99 ...	
AS216	Prepare Drawings for Sy...	10.0d	5.0d	100%	23-Aug-99 ...	01-Oct-99 ...	21.0d
AS102	Approve System Design	10.0d	0.0d	100%	31-Aug-99 ...	14-Sep-99 ...	
AS205	Review and Approve Te...	5.0d	0.0d	100%	31-Aug-99 ...	14-Sep-99 ...	
AS217	Review and Approve Sy...	10.0d	10.0d	0%	04-Oct-99 ...	15-Oct-99 ...	21.0d
AS900	System Buyoff	0.0d	0.0d	0%	14-Jul-00 0...	14-Jul-00 0...	0.0d
Auto.2	Hardware	150.0d	136.0d	1.97%	07-Sep-99 ...	03-Apr-00 ...	0.0d
AS310	Site Preparation	10.0d	2.0d	90%	14-Sep-99 ...	28-Sep-99 ...	0.0d
AS240	Installation Begins	0.0d	0.0d	0%	14-Sep-99 ...	14-Sep-99 ...	
AS315	Install Electrical Power	16.0d	16.0d	0%	29-Sep-99 ...	20-Oct-99 ...	0.0d
AS109	Test & Debug Line A	24.0d	24.0d	0%	10-Feb-00 ...	14-Mar-00 ...	0.0d
AS110	Test & Debug Line B	24.0d	24.0d	0%	10-Feb-00 ...	14-Mar-00 ...	0.0d
AS111	Pilot Start Line A	1.0d	1.0d	0%	15-Mar-00 ...	15-Mar-00 ...	0.0d
AS112	Start-Up Line B	1.0d	1.0d	0%	15-Mar-00 ...	15-Mar-00 ...	0.0d
AS265	Path Refinement and Sha...	10.0d	10.0d	0%	16-Mar-00 ...	29-Mar-00 ...	0.0d

For activity layouts:

- The timescale begins on the date defined by the selected layout.
- The columns displayed in the Web pages are defined by the selected layout.
- Activity layouts are not interactive. They are a picture of your project only.

For tracking layouts:

- The elements displayed in the Web pages are defined by the selected layout.
- Tracking layouts are not interactive. They are a picture of your project only.

Publish an activity layout Choose Tools, Publish, Activity Layouts. Select the layout and click the Select button. Specify the location and name of the HTML file to which the layout will be saved. Click Open.

Publish a tracking layout Choose Tools, Publish, Tracking Layouts. Select the layout and click the Select button. Specify the location and name of the HTML file to which the layout will be saved. Click Open.

If you clear the Include in Project Website checkbox in the Graphics tab of the Publish Project Website window, when the Web site is published, activity and tracking layouts are saved as HTML files without being linked to the project Web site.

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